SONY

Digital Still Camera

Operating Instructions

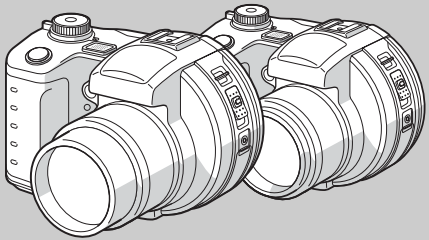
Before operating the unit, please read this manual thoroughly, and retain it for future reference.

Owner's Record

The model and serial numbers are located on the bottom. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. MVC-CD400/CD250

Serial No. _____



CD Mavica

InfoLITHIUM M SERIES

COMPACT disc Recordable ReWritable

MVC-CD400/CD250

© 2002 Sony Corporation

3-075-356-**12**(1)

Getting started

Shooting still images

Viewing still images

Deleting still images

Copying images to your computer

Before advanced operations

Advanced still image shooting

Advanced still image viewing

Still image editing

Enjoying movies

Troubleshooting

Additional information

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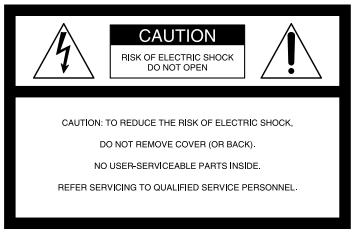
WARNING

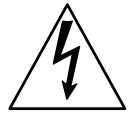
To prevent fire or shock hazard, do not expose the unit to rain or moisture.

CAUTION

The use of optical instruments with this product will increase eye hazard.
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

For the Customers in the U.S.A.





This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

If you have any questions about this product, you may call:

Sony Customer Information Services Center
1-800-222-SONY (7669)

The number below is for the FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name: SONY
Model No.: MVC-CD400
Responsible Party: Sony Electronics Inc.
Address: 680 Kinderkamack Road, Oradell, NJ 07649 USA
Telephone No.: 201-930-6972

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

Trade Name: SONY
Model No.: MVC-CD250
Responsible Party: Sony Electronics Inc.
Address: 680 Kinderkamack Road, Oradell, NJ 07649 USA
Telephone No.: 201-930-6972

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
— Consult the dealer or an experienced radio/TV technician for help.

The supplied interface cable must be used with the equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For the Customers in the U.S.A. and Canada

RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable.
You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit http://www.rbrc.org/

Caution: Do not handle damaged or leaking Lithium-Ion batteries.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

Notice on the supplied AC power adaptor for the customers in the United Kingdom

A moulded plug complying with BS 1363 is fitted to this equipment for your safety and convenience.
Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS 1362, (i.e., marked with ⓐ or ♡ mark) must be used.
If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

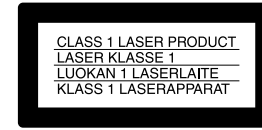
For the Customers in Germany

Directive: EMC Directive 89/336/EEC, 92/31/EEC
This equipment complies with the EMC regulations when used under the following circumstances:
- Residential area
- Business district
- Light-industry district

(This equipment complies with the EMC standard regulations EN55022 Class B.)

Attention for the Customers in Europe

This product has been tested and found compliant with the limits sets out on the EMC Directive for using connection cables shorter than 3 meters (9.8 feets).



This statement is indicated under the lens.

The electromagnetic fields at the specific frequencies may influence the picture and sound of this camera.

If static electricity or electromagnetism causes data transfer to discontinue midway (fail), restart the application or disconnect and connect the USB cable again.

This digital still camera uses 8 cm CD-Rs/CD-RWs as recording media. “CD-R” or “CD-RW” mentioned above is indicated as “disc” in this manual. When a distinction between CD-Rs and CD-RWs is necessary, “disc” is indicated as “CD-R” or “CD-RW.”

- **We recommend that you use this camera with Mavica discs*.**
- **While the image is being recorded on the disc, the ACCESS lamp lights up (red). When this lamp is lit, do not shake or strike the camera.**

* The Mavica disc is an 8 cm CD-R/CD-RW with the Mavica logo.

Trial recording

Before you record one-time events, you may want to make a trial recording to make sure that the camera is working correctly.

No compensation for contents of the recording

Contents of the recording cannot be compensated for if recording or playback is not possible due to a malfunction of your camera or recording media, etc.

Notes on image data compatibility

- This camera conforms with the Design rule for Camera File system universal standard established by the JEITA (Japan Electronics and Information Technology Industries Association).
- Playback of images recorded with your camera on other equipment and playback of images recorded or edited with other equipment on your camera are not guaranteed.

Precaution on copyright

Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Do not shake or strike the camera

In addition to malfunctions and inability to record images, this may render the discs unusable or image data breakdown, damage or loss may occur.

Do not aim the camera at the sun or other bright light

This may cause irrecoverable damage to your eyes.

On battery pack

Never expose the battery pack to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.

LCD screen, LCD finder (only models with an LCD finder) and lens

- The LCD screen and the LCD finder are manufactured using extremely high-precision technology so over 99.99% of the pixels are operational for effective use. However, there may be some tiny black points and/or bright points (white, red, blue or green in color) that constantly appear on the LCD screen and the LCD finder. These points are normal in the manufacturing process and do not affect the recording in any way.
- Be careful when placing the camera near a window or outdoors. Exposing the LCD screen, the finder or the lens to direct sunlight for long periods may cause malfunctions.

Handling of the movable lens (for MVC-CD400 only)

This camera uses a movable lens. Be careful not to strike or apply excessive force to the lens portion.

About the Carl Zeiss lens (MVC-CD400 only)

This camera is equipped with a Carl Zeiss lens which is capable of reproducing fine images. The lens for this camera uses the MTF* measurement system for cameras developed jointly by Carl Zeiss, in Germany, and Sony Corporation, and offers the same quality as other Carl Zeiss lenses.

* MTF is an abbreviation of Modulation Transfer Function, a numeric value indicating the amount of light from a specific part of the subject gathered at the corresponding position in the image.

Do not get the camera wet

When taking pictures outdoors in the rain or under similar conditions, be careful not to get the camera wet. If moisture condensation occurs, see page 118 and follow the instructions on how to remove it before using the camera.

Back up recommendation

To avoid the potential risk of data loss, always copy (back up) data to a disk.

On illustrations

Illustrations used in this manual are of the MVC-CD400 unless noted otherwise.

The pictures used in this manual

The photographs used as examples of pictures in this manual are reproduced images, and are not actual images shot using this camera.

Trademarks

- "InfoLITHIUM" is a trademark of Sony Corporation.
- Microsoft and Windows are registered trademarks of the U.S. Microsoft Corporation in the United States and other countries.
- Macintosh, Mac OS, and QuickTime, are trademarks or registered trademarks of Apple Computer, Inc.
- In addition, system and product names used in this manual are, in general, trademarks or registered trademarks of their respective developers or manufacturers. However, the ™ or ® marks are not used in all cases in this manual.

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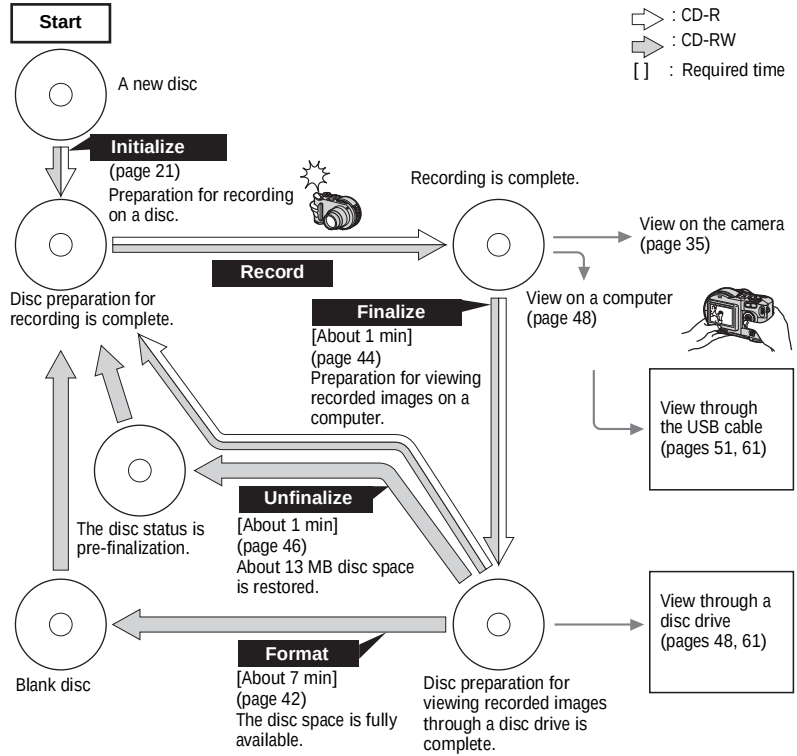
This digital still camera is capable of recording still images and movies onto 8 cm CD-R/CD-RW discs.

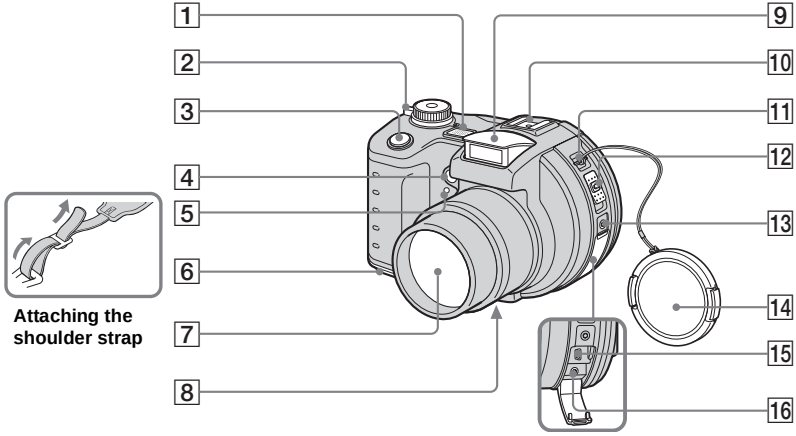
Capture images with your computer

You can easily copy images onto your computer through a disc drive or the USB cable, and view and modify images on your computer using application software. When using a disc drive to view images on your computer, finalization is required (page 44).

Flow chart for disc operations



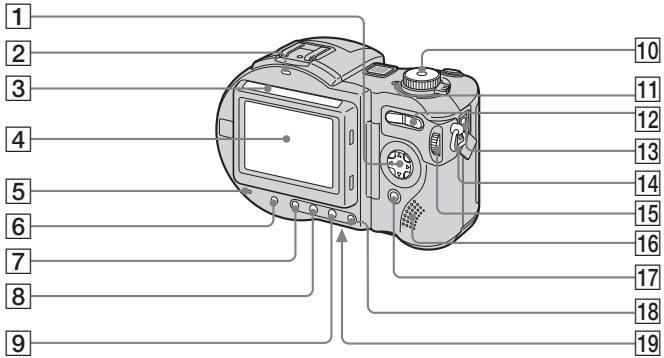
See the pages in parentheses for details of operation.



Attaching the shoulder strap

1 **Microphone**
2 **POWER ON/OFF (CHG) switch** (17)
3 **Shutter button** (25)
4 **Self-timer lamp (MVC-CD250)** (29)**/ Hologram AF (MVC-CD400)/ AF illuminator (MVC-CD250) emitter** (31, 116)
5 **Self-timer lamp (MVC-CD400)** (29)
6 **Battery cover** (13)
7 **Lens**
8 **Tripod receptacle (bottom surface)**
9 **Flash emitter** (29)
10 **Hot shoe (MVC-CD400)/ Accessory shoe (MVC-CD250)** (84, 117)
11 **Hook for lens cap/shoulder strap**
12 **Disc cover OPEN lever** (20)
13 **ACC (Accessory) jack**
14 **Lens cap (supplied)**
15 **USB jack** (56)
16 **A/V OUT (MONO) jack** (37)

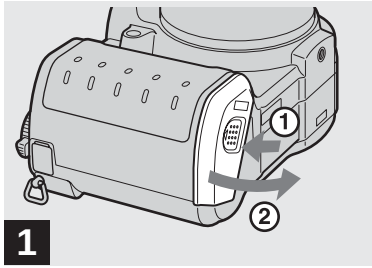
- Do not touch the microphone while recording.
- Use a tripod with a screw length of less than 5.5 mm (7/32 inch). You will be unable to firmly secure the camera to tripods having longer screws, and may damage the camera.
- Use ACC jack to connect an external flash or other equipment.
- Audio output is monaural.



1 **Control button**
(Menu on) (▲/▼/◄/►/●)
(Menu off) (ϟ/Ⓢ/⟲/❦) (27, 28, 29)
2 **ϟ/CHG (charge) lamp** (14)
3 **Photocell window for LCD screen**
4 **LCD screen**
5 **ACCESS lamp** (20)
6 **DISPLAY/LCD BACK LIGHT ON/OFF button** (26)
7 **(Metering mode) button*** (72)
8 **FOCUS button*** (66, 69)
9 **(Exposure) button*** (70)
10 **Mode dial** (17)
: To shoot still images
: To view or edit images
: To shoot movies, Clip Motion images or Multi Burst mode images
SET UP: To set the SET UP items
SCN: To shoot in the SCENE SELECTION mode
M: To shoot in the manual exposure mode*
A: To shoot in the aperture priority mode*
S: To shoot in the shutter speed priority mode*
11 **POWER lamp** (17)
12 **Zoom button (for shooting)** (27)**/ Index button (for viewing)** (36)
13 **DC IN jack** (13, 16)
14 **Hook for shoulder strap**
15 **Jog dial*** (63)
16 **Speaker**
17 **MENU button** (22)
18 **AE LOCK button*** (74)
19 **RESET button (bottom surface)** (98)

• The LCD screen automatically becomes brighter when this is exposed to sunlight.

* not available on the MVC-CD250

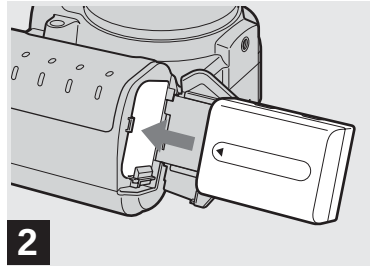


➡ **Open the battery cover.**

Slide the cover in the direction of the arrow ①. The battery cover opens in the direction the arrow ②.

Be sure to turn off your camera when charging the battery pack.

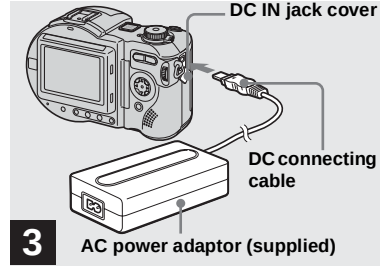
- "InfoLITHIUM" is a lithium ion battery pack which can exchange information such as battery consumption with compatible video equipment. "InfoLITHIUM" M series battery packs have the InfoLITHIUM M series mark.
- Your camera operates only with the "InfoLITHIUM" NP-FM50 battery pack (M series) (supplied) (page 120).



➡ **Install the battery pack, then close the battery cover.**

Insert the battery pack with the ▲ mark facing toward the battery compartment as illustrated.
Make sure the battery pack is firmly inserted all the way, then close the cover so that it clicks.

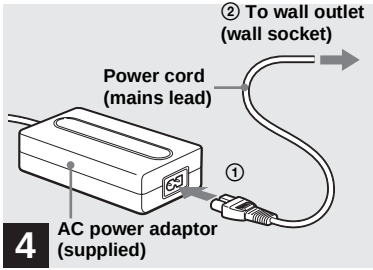
- The battery pack is easily inserted by pushing the battery eject lever at the front of the battery compartment to the outside.



➡ **Open the DC IN jack cover and connect the DC connecting cable to the DC IN jack of your camera.**

Connect the cable with the ▲ mark facing up.

- Do not short the DC plug of the AC power adaptor with a metallic object, as this may cause malfunction.
- Do not use the DC plug if it is dirty. Use a dry cotton swab to remove any dirt on the DC plug. Using a dirty plug can result in improper charging.

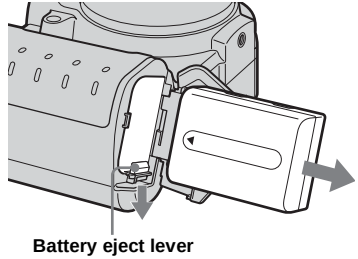


➡ **Connect the power cord (mains lead) to the AC power adaptor and then to a wall outlet (wall socket).**

The ϟ/CHG lamp (orange) lights up when charging begins, and goes off when charging is completed. After charging the battery pack, disconnect the AC power adaptor from the DC IN jack of your camera.

- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50°F to 86°F).
- Charging is complete in approximately 150 minutes. The charge lamp may remain lit longer than 150 minutes, but this is not a malfunction.
- If sufficient battery remaining time is indicated but the power runs out soon, fully charge the battery pack so that the correct battery remaining time appears.

To remove the battery pack



Open the battery cover. Slide the battery eject lever in the direction of the arrow, and remove the battery pack.

- Be careful not to drop the battery pack when removing it.

Battery remaining indicator

The battery remaining indicator on the LCD shows the remaining shooting or viewing time.

- When charging, the battery remaining indicator shows the time remaining in terms of performing continuous shooting (with all indicators on).
- The displayed time remaining may not be correct under certain circumstances or conditions.

Charging time

Approximate time to charge a completely discharged battery pack using the AC-L10A/L10B AC power adaptor at a temperature of 25°C (77°F).

Battery pack	Full charge (min.)
NP-FM50 (supplied)	Approx. 150

NP-FM50 battery pack

When you shoot images in an extremely cold location, the operating time becomes short. When using the camera in an extremely cold location, place the battery pack in your pocket or other place to keep it warm, then insert the battery pack into the camera just before shooting. When using a pocket heater, take care not to let the heater directly contact the battery.

Battery life and number of images that can be recorded/ viewed

The tables show the approximate battery life and the number of images that can be recorded/ viewed with a fully charged battery pack at a temperature of 25°C (77°F), standard image quality, (no flash) and in NORMAL recording mode.
But the remaining indicator will decrease in the following situations:

– The surrounding temperature is low
– The camera has been turned ON and OFF many times
– The LCD backlight is set to [BRIGHT]
– The battery power is low
The battery capacity decreases as you use it more and more and as time passes (page 121).

Shooting still images*

MVC-CD400

Image size	NP-FM50 (supplied)	
	Battery life (min.)	No. of images
2272×1704	Approx. 110	Approx. 1400
640×480	Approx. 110	Approx. 1800

* Shooting at about 4-second intervals

MVC-CD250

Image size	NP-FM50 (supplied)	
	Battery life (min.)	No. of images
1600×1200	Approx. 120	Approx. 2300
640×480	Approx. 120	Approx. 2400

* Shooting at about 3-second intervals

Viewing still images**

MVC-CD400

Image size	NP-FM50 (supplied)	
	Battery life (min.)	No. of images
2272×1704	Approx. 170	Approx. 1100
640×480	Approx. 170	Approx. 1300

MVC-CD250

Image size	NP-FM50 (supplied)	
	Battery life (min.)	No. of images
1600×1200	Approx. 180	Approx. 1200
640×480	Approx. 180	Approx. 1400

** Viewing single images in order at about 5-second intervals with all indicators on

Shooting movies

MVC-CD400

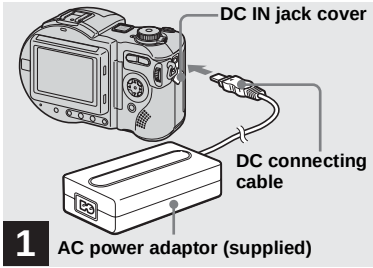
	NP-FM50 (supplied)
	Battery life (min.)
Continuous recording	Approx. 150

MVC-CD250

	NP-FM50 (supplied)
	Battery life (min.)
Continuous recording	Approx. 170

• The battery life and number of images will be decreased when using the camera at low temperatures, using the flash, turning the power on/off repeatedly, or using the zoom.

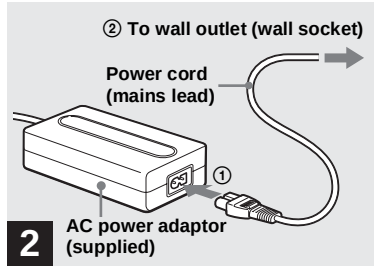
Using an external power source



➡ **Open the DC IN jack cover and connect the DC connecting cable to the DC IN jack of your camera.**

Connect the cable with the ▲ mark facing up.

- Connect the AC power adaptor to an easily accessible wall outlet (wall socket) close by. If some trouble occurs while using the adaptor, immediately shut off the power by disconnecting the plug from the wall outlet (wall socket).
- Remove the battery pack when using an external power source.



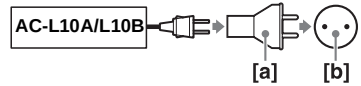
➡ **Connect the power cord (mains lead) to the AC power adaptor and then to a wall outlet (wall socket).**

- When you have finished using the AC power adaptor, disconnect it from the DC IN jack of the camera.
- To use power from an automobile, use the Sony DC adaptor/charger (not supplied).
- If you insert or remove the DC plug while you are using the battery, the power may shut off.

Using your camera abroad

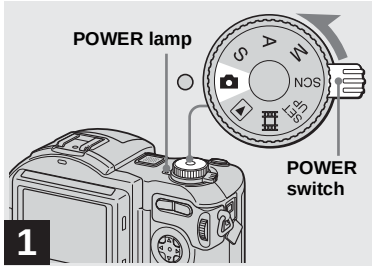
Power sources

You can use your camera in any country or area with the supplied battery charger within 100 V to 240 V AC, 50/60 Hz. Use a commercially available AC plug adaptor **[a]**, if necessary, depending on the design of the wall outlet (wall socket) **[b]**.



- Do not use an electronic transformer (travel converter), as this may cause a malfunction.

Turning on/off your camera



➡ **Slide the POWER switch in the direction of the arrow.**

The POWER lamp (green) lights up and the power is on. When you turn on your camera for the first time, the CLOCK SET screen appears (page 17).

Turning off the power

Slide the POWER switch in the direction of the arrow again. The POWER lamp goes out, and the camera turns off.

- If you turn on the power when the mode dial is set to 📷, S, A, M, SCN or 🎞, the lens portion moves (MVC-CD400 only). Do not touch the lens portion while it is operating.

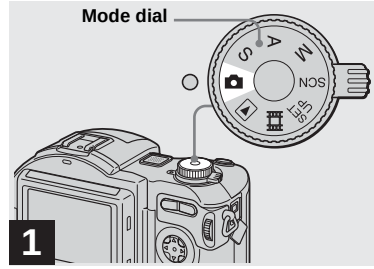
Auto power-off function

If you do not operate the camera for about three minutes during shooting or viewing or when performing SET UP, the camera turns off automatically to prevent wearing down the battery. The auto power-off function only operates when the camera is operating using a battery pack. The auto power-off function also will not operate in the following circumstances.

- When viewing movies
- When a connector is plugged into the USB jack or the A/V OUT jack.

When playing back a Slide Show (page 87), the power automatically turns off after about 20 minutes regardless of the power source (battery pack or AC power adaptor).

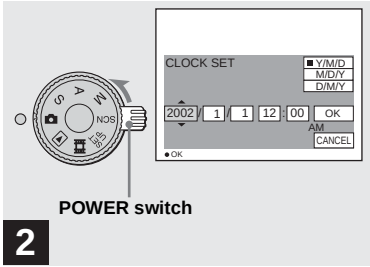
Setting the date and time



➡ **Set the mode dial to 📷.**

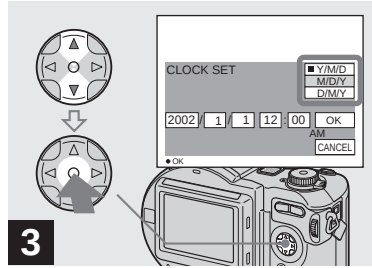
- You can also carry out this operation when the mode dial is set to S*, A*, M*, SCN, ▶, or 🎞.
- To change the date and time, set the mode dial to SET UP, select [CLOCK SET] in 🧰 [SETUP 1] (page 117), and perform the procedure from step **3**.

* MVC-CD400 only



➡ **Slide the POWER switch in the direction of the arrow to turn on the power.**

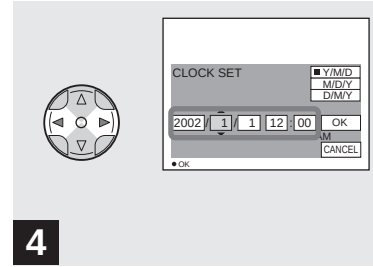
The POWER lamp (green) lights up and the CLOCK SET screen appears on the LCD screen.



➡ **Select the desired date display format with ▲/▼ on the control button, then press ●.**

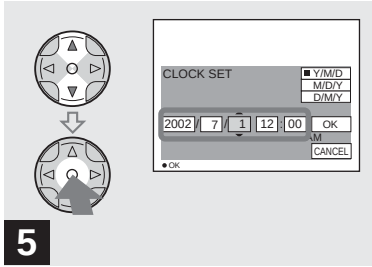
Select from [Y/M/D] (year/month/day), [M/D/Y] (month/day/year) or [D/M/Y] (day/month/year).

- If the rechargeable button battery, which provides the power for saving the time data, is ever fully discharged (page 119), the CLOCK SET screen will appear again. When this happens, reset the date and time, by starting from step **3** above.



➡ **Select the year, month, day, hour or minute item you want to set with ◄/► on the control button.**

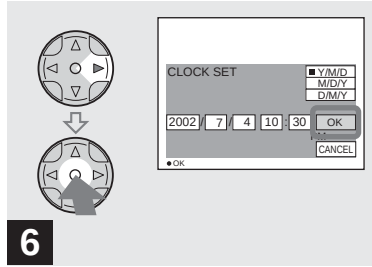
The item to be set is indicated with ▲/▼.



➡ **Set the numeric value with ▲/▼ on the control button, then press ● to enter it.**

After entering the number, ▲/▼ moves to the next item. Repeat this step until all of the items are set.

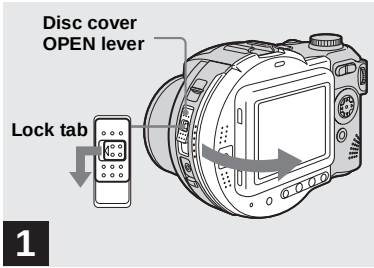
- If you selected [D/M/Y] in step **3**, set the time on a 24-hour cycle.



➡ **Select [OK] with ► on the control button, then press ●.**

The date and time are entered and the clock starts to keep time.

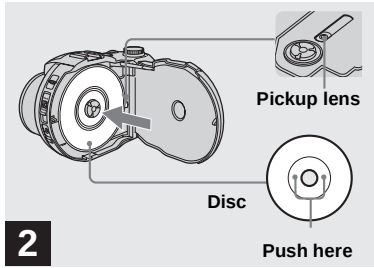
- To cancel the date and time setting, select [CANCEL] with ▲/▼/◄/► on the control button, then press ●.



➡ Open the disc cover.

While sliding the lock tab to the left, slide down the disc cover OPEN lever, and open the disc cover.

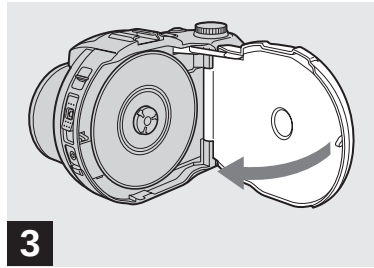
- You can use only 8 cm CD-R/CD-RW discs that have these marks.



➡ Place a disc in the disc tray.

Place the disc with the printed side up, and push down on the center of the disc until it clicks.

- Do not push with too force on the disc.
- Do not touch the pickup lens.



➡ Close the disc cover.

Removing the disc

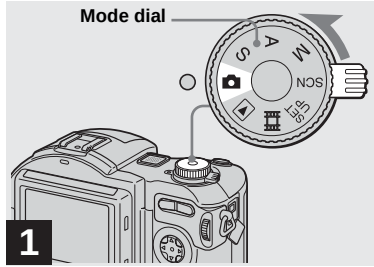
While sliding the lock tab to the left, slide down the disc cover OPEN lever, and open the disc cover. Check to make sure that the disc has completely stopped rotating, then remove the disc.

- **When the ACCESS lamp is lit up, it means that image data is being read or written. Never open the disc cover or turn off the power at this time, as the image data may be damaged or the disc may become unusable.**
- While the camera is writing data on a disc, the disc cover OPEN lever is locked.
- After you change the disc, “REPAIRING DATA” may appear on the LCD screen and it may take about 10 minutes to prepare the disc for recording depending on the disc condition.

Initializing a disc

What is initialization?

Initialization is required to record images on a disc.
When you perform finalization (page 44) using your camera to view images through a disc drive, initialization is also automatically performed, and you can continue to record images. Images recorded before finalization remain on the disc.

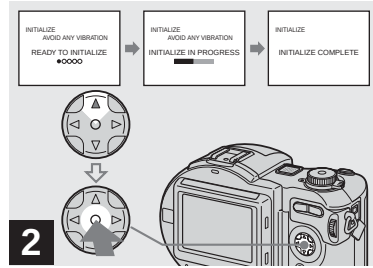


➡ **Insert a new disc and set the mode dial to 📷, then turn on the power.**

"INITIALIZE PLACE ON LEVEL SURFACE" appears on the LCD screen.

- You can also carry out this operation when the mode dial is set to S*, A*, M*, SCN or 🎞.

* MVC-CD400 only



➡ **Select [OK] with ▲ on the control button, then press ●.**

Initialization starts. Do not shake or strike the camera during initialization.

To cancel initialization

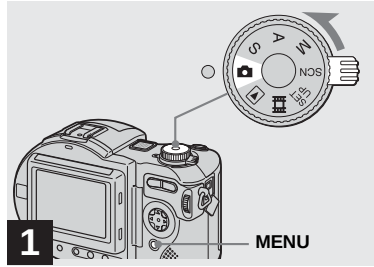
Select [CANCEL] with ▼ on the control button, then press ●.

Initializing after canceling the initialization

Open and close the disc cover, or set the mode dial to 📷, S*, A*, M*, SCN, or 🎞, select [EXEC] with ▲ on the control button, then press ●.

* MVC-CD400 only

- You can also perform initialization using [DISC TOOL] in the SET UP settings (page 116).

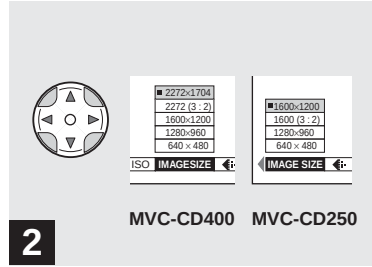


➡ Set the mode dial to 📷, and turn on the power, then press MENU.

The menu appears.

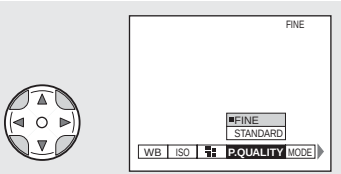
- You can also carry out this operation when the mode dial is set to S*, A*, M* or SCN.
- ± (EV), ☞ (FOCUS) and ● (SPOT METER) are displayed on the MVC-CD250 menu (page 62).

* MVC-CD400 only



➡ Select ▦ (IMAGE SIZE) with ◄/► on the control button, then select the desired image size with ▲/▼.

The image size is set.



3

➡ **Select (P.QUALITY) with ◄/► on the control button, then select the desired image quality with ▲/▼.**

The image quality is set.
When the setting is complete, press MENU so that the menu disappears from the LCD screen.

- You can select the image quality from either [FINE] or [STANDARD].
- The image size and quality values selected here are maintained even when the power is turned off.

Image size and quality

You can choose the image size (number of pixels) and the image quality (compression ratio) according to the kind of images you want to shoot. Larger image sizes and higher image quality result in better images, but also a larger data size, which means fewer images that you can record on a disc.
Choose an image size and quality appropriate for the kind of images you want to shoot.
You can resize the images later (Resize function, see page 91).

You can choose from the following table.

Image size	Usage
2272×1704 (MVC-CD400)	Very fine prints
2272 (3:2) (MVC-CD400)	Printing in 3:2 ratio[1)]
1600×1200	Printing in A4 format
1600 (3:2) (MVC-CD250)	Printing in 3:2 ratio[1)]
1280×960	Printing in postcard size
640×480	Attaching to e-mail

[1)] The image is recorded in the horizontal to vertical ratio of 3:2 to fit the printing paper size.

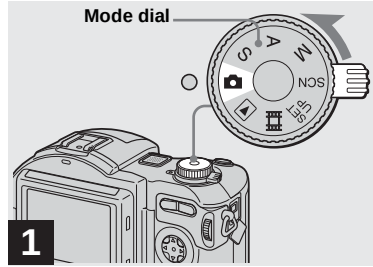
Number of images[2] that can be saved on a disc

(Units: images)

Quality / Image size	FINE	STANDARD
2272×1704 (MVC-CD400)	66	119
2272 (3:2) (MVC-CD400)	66	119
1600×1200	131	235
1600 (3:2) (MVC-CD250)	131	235
1280×960	195	347
640×480	658	1291

[2] When [MODE] (REC MODE) is set to [NORMAL].
For the number of images that can be saved in other modes, see page 110.

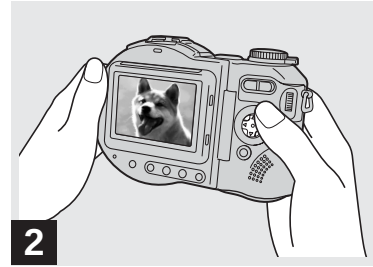
- Image size is the size when viewing the images on a personal computer. Images viewed on the LCD screen of the camera all appear the same size.
- The actual number of images may differ depending on the shooting conditions.
- The image size value (e.g., 2272×1704) indicates the number of pixels.



➡ **Set the mode dial to 📷, and turn on the power.**

Remove the lens cap.

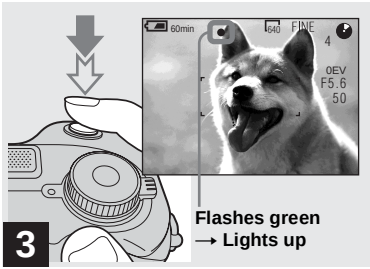
- Still images are recorded in JPEG format.
- When you turn on the power or use the zoom (page 27), the lens portion moves (MVC-CD400 only). Do not touch the lens portion while it is operating.
- When the mode dial is set to 📷, the exposure and focus are adjusted automatically.



➡ **Hold the camera steadily with both hands and position the subject in the center of the focus frame.**

The lens portion moves when you turn on the power (MVC-CD400 only)

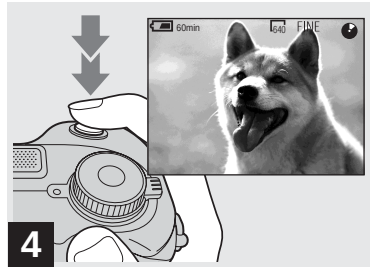
- You can choose either Multipoint AF or Focus range select mode (MVC-CD400), or Multi-point AF mode or Center AF (MVC-CD250) as the AF mode (page 66).



➡ **Press and hold the shutter button halfway down.**

The beep sounds but the image is not yet recorded. When the AE/AF lock indicator changes from flashing to lighted up, the camera is ready for shooting.
The flash automatically pops up and strobes when the surroundings are dark.

- If you release the shutter button, the recording will be canceled.
- The minimum focal distance to the subject is 50 cm (19 3/4 inches). To shoot even closer subjects, use macro recording mode (page 28).
- The frame appearing on the LCD screen shows the focus adjustment range. (For more details on the AF range finder, see page 68.)



➡ **Press the shutter button fully down.**

The shutter sounds. “RECORDING” appears on the LCD screen, and the image will be recorded on the disc. When “RECORDING” disappears, you can shoot the next image.

- When operating the camera using a battery pack, if you do not operate the camera for about three minutes during recording or playback, the camera turns off automatically to prevent wearing down the battery (page 17).
- When [CONFIRM B. WRITE] in the SET UP settings is set to [ON], you can select whether to actually record the image on a disc (page 83).

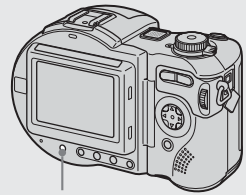
- While the image is being recorded on the disc, the ACCESS lamp lights up. Do not shake or strike the camera while this lamp is lit. Also do not turn off the power, remove the battery pack or disc, or open the disc cover at this time, as the image data may be damaged or the disc may become unusable.
- Do not cover the lens or flash with your fingers.

Auto Focus

When you try to shoot a subject that is difficult to focus on, the AE/AF lock indicator changes to flashing slowly. The Auto Focus function may have difficulty working under the following conditions. In such cases, release the shutter button, then recompose the shot and focus again.

- The subject is distant from the camera and dark.
- The contrast between the subject and its background is poor.
- The subject is seen through glass, such as a window.
- A fast-moving subject.
- The subject reflects or has a lustrous finish, such as a mirror or a luminous body.
- A flashing subject.

LCD screen indicators during shooting

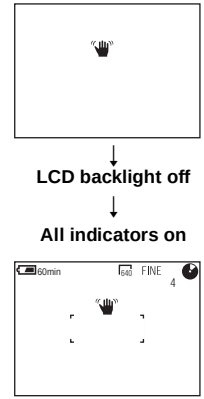


DISPLAY/LCD BACK LIGHT ON/OFF

This is useful for extending the battery life and for shooting under conditions where the image is difficult to check using the LCD screen.

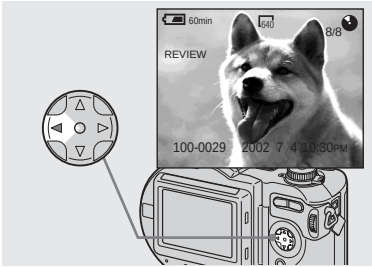
Each time you press DISPLAY/LCD BACK LIGHT ON/OFF, the display changes in the following order.

Indicators off (Only warning messages and manual adjustment items which are set using the jog dial are on. (MVC-CD400 only))



- For a detailed description of the indicators, see page 124.
- Indicators on the LCD screen are not recorded.

Checking the last image you shot (Quick Review)



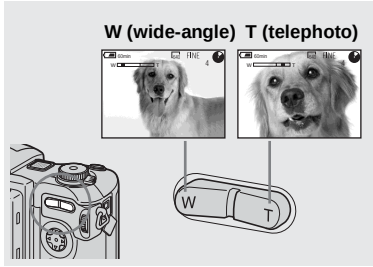
➡ **Press ◀ (⟲) on the control button.**

To return to the normal shooting mode, press lightly on the shutter button or press ◀ (⟲) again.

To delete the image displayed on the LCD screen

1. Press MENU to display the menu.
2. Select [DELETE] with ▶ on the control button, then press ●.
3. Select [OK] with ▲ on the control button, then press ●.
   The image is deleted.

Using the zoom feature



➡ **Press the zoom button to choose the desired image size for shooting.**

Minimum focal distance to the subject

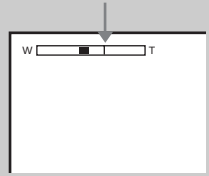
When the zoom is set to the W side:
About 50 cm (19 3/4 inches) (MVC-CD400)
About 50 cm (19 3/4 inches) (MVC-CD250)
When the zoom is set to the T side:
About 50 cm (19 3/4 inches) (MVC-CD400)
About 80 cm (31 1/2 inches) (MVC-CD250)

- The lens portion moves during zoom operation (MVC-CD400 only). Do not touch the lens portion while it is operating.
- Zoom does not work for movies (page 94) (MVC-CD400 only).

Digital zoom

When zoom exceeds 3×, the image is enlarged by digital processing. The maximum digital zoom magnification is 6×. Digital zooming deteriorates the image quality, so when digital zoom is not necessary, set [DIGITAL ZOOM] to [OFF] in the SET UP settings (page 116).

The T side of the bar shows the digital zoom zone.

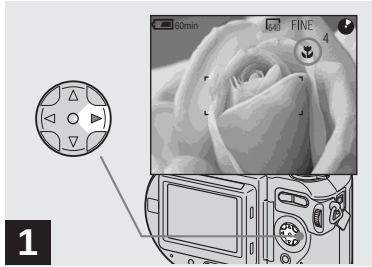


- During digital zoom, the AF frame does not appear on the LCD screen.
- Digital zoom does not work for movies.

The macro recording mode is used when zooming up a small subject, such as flowers or insects. You can shoot close-ups of subjects up to the distances specified below.

When the zoom is set all the way to the W side:
Approx. 4 cm (1 5/8 inches) from the lens surface (MVC-CD400)
Approx. 3 cm (1 3/16 inches) from the lens surface (MVC-CD250)

When the zoom is set all the way to the T side:
Approx. 20 cm (7 7/8 inches) from the lens surface (MVC-CD400)
Approx. 80 cm (31 1/2 inches) from the lens surface (MVC-CD250)

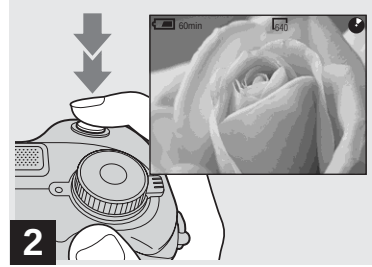


➞ Set the mode dial to 📷, and press ► (🌷) on the control button.

The 🌷 (macro) indicator appears on the LCD screen.

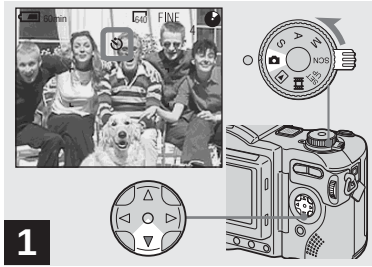
- If the menu is currently displayed, press MENU first so that the menu disappears.
- You can also carry out this operation when the mode dial is set to S*, A*, M*, SCN (other than landscape mode) (page 33), or 🎞.

* MVC-CD400 only



➞ Center the subject in the frame, and shoot the image.

To return to normal recording mode
Press ► (🌷) on the control button again. The 🌷 indicator disappears.

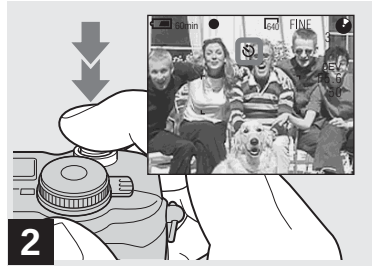


➡ Turn the mode dial to 📷, and press ▼ (⏲) on the control button.

The ⏲ (self-timer) indicator appears on the LCD screen.

- If the menu is currently displayed, press MENU first so that the menu disappears.
- You can also carry out this operation when the mode dial is set to S*, A*, M*, SCN, or 🎞.

* MVC-CD400 only



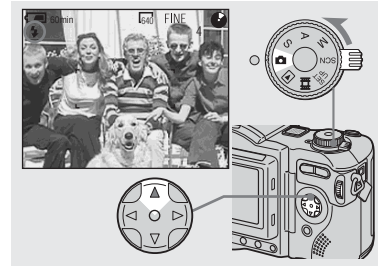
➡ Center the subject in the frame, and press the shutter button fully down.

The self-timer lamp (page 11) flashes and a beep sounds after you press the shutter button until the shutter button is released (approximately 10 seconds).

To cancel the self-timer in the middle of the operation

Press ▼ (⏲) on the control button again.

- If you press the shutter button while standing in front of the camera, the focus and the exposure may not be correctly set.



➡ Set the mode dial to 📷, and press ▲ (ϟ) on the control button repeatedly to select a flash mode.

Each time you press ▲ (ϟ), the indicator changes as follows.

No indicator (Auto): The flash automatically pops up and strobes when the surroundings are dark (default).

↓

ϟ **(Forced flash):** The flash strobes regardless of the surrounding brightness.

↓

⊗ **(No flash):** The flash does not strobe.

- If the menu is currently displayed, press MENU first so that the menu disappears.
- You can change the brightness of the flash with [FLASH LEVEL] in the menu settings (page 112).
- When using the Auto or ϟ (Forced flash) mode, you may notice some noise in the image when you look at the LCD screen in a dark place, but this will have no effect on the shot image.
- While charging the flash, the ϟ /CHG lamp flashes. After the charging is complete, the lamp goes out.
- When you press the shutter button halfway down while the flash is strobing, the ϟ /CHG lamp turns on.
- Attaching a conversion lens (not supplied) may block the light from the built-in flash or cause the lens shadow to appear.
- You cannot use an external flash that supports hot shoe (not supplied) and the built-in flash at the same time.
- When using a commercially available external flash, set [HOT SHOE] to [ON] in the SET UP settings (MVC-CD400 only).
- Two types of external flash can be used: the optional HVL-F1000 flash and commercially available flashes that support hot shoe (page 84).
- You cannot use the external flash HVL-F1000 (optional) and the built-in flash at the same time.

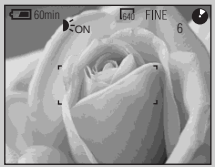
To reduce the red-eye phenomenon when shooting live subjects

Set [RED EYE REDUCTION] to [ON] in the SET UP settings (page 116). ◑ indicator appears on the LCD screen, and the flash pre-strobes before shooting to reduce the red-eye phenomenon.

- Red-eye reduction may not produce the desired effects depending on individual differences, the distance to the subject, if the subject does not see the pre-strobe, or other conditions.

Recording images with the hologram AF[1]/AF illuminator[2]

The hologram AF[1]/AF illuminator[2] is fill light to focus more easily on a subject in dark surroundings. Set [HOLOGRAM AF][1] or [AF ILLUMINATOR][2] (page 116) to [AUTO] in the SET UP settings. ◗ON appears on the LCD screen and the hologram AF[1] or AF illuminator[2] emits light when the shutter button is pressed halfway until the focus is locked.



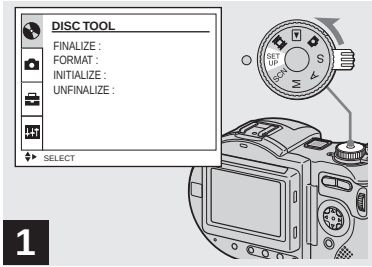
- If hologram AF[1] or AF illuminator[2] light does not reach the subject sufficiently or the subject has no contrast, focus will not be achieved. (An approximate distance of 0.5 to 4.0 m (19 3/4 inches to 13 feet 1 3/8 inches) for the MVC-CD400 and 0.3 to 2.3 m (11 7/8 inches to 7 feet 6 1/2 inches) for the MVC-CD250 is recommended.)
- Focus is achieved as long as hologram AF[1] or AF illuminator[2] light reaches the subject, even if the light is slightly out of the middle position of the subject.
- The hologram AF[1] or AF illuminator[2] will not emit light when adjusting the focus manually.
- The hologram AF will not emit light when [CONVERSION LENS] is set to [ON] in the SET UP settings (page 117). (MVC-CD400 only)
- If the hologram AF[1] emitter is dirty, the hologram AF light may be dimmed and focus may not be achieved. In this case, wipe the hologram AF emitter with a dry cloth.
- No safety problems will be caused by directly looking into the hologram AF[1] or AF illuminator[2] emitter at a close range. However, it is not recommended to do so, because you may experience such effects like several minutes of residual image and dazzling, like that encountered after looking into a flashlight.
- Do not block the hologram AF[1] or AF[2] illuminator emitter during recording.

[1] MVC-CD400 only
[2] MVC-CD250 only

About Hologram AF (MVC-CD400 only)

"Hologram AF (Auto-Focus)" is a new AF optical system that applies laser holograms to enable you to shoot still images in dark places. The Hologram AF system uses gentler radiation than conventional high-brightness LEDs or lamps, thus satisfying Laser Class 1* specifications and maintaining higher safety for human eyes.

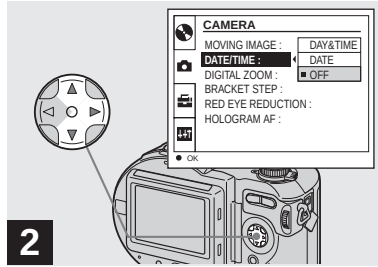
* Hologram AF satisfies Class 1 (time base 30,000 seconds), specified in all of JIS (Japan), IEC (EU), and FDA (US) industry standards. Complying with these standards identifies the laser product to be safe, under a condition that a human looks at the laser light either directly or even through a lens for 30,000 seconds.



➡ Set the mode dial to SET UP.

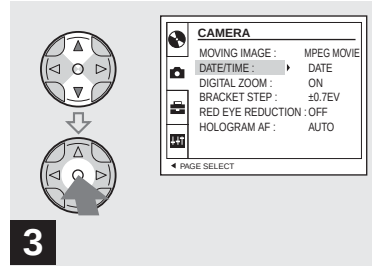
The SET UP screen appears.

- When images are shot with the date and time superimposed, the date and time cannot be removed later.
- The date and time do not appear on the LCD screen during shooting, instead, "DATE" appears in the upper left corner of the LCD screen. The actual date and time appear during playback only.



➡ Select [CAMERA] with ▲/▼ on the control button, then press ►.
Select [DATE/TIME] with ▲/▼, then press ►.

- If you select [DATE], the date is superimposed onto the image in the order selected with "Setting the date and time" (page 17).
- On MVC-CD250, the [HOLOGRAM AF] item is displayed as [AF ILLUMINATOR] and the [BRACKET STEP] (page 116) item is not displayed in [CAMERA].



➡ Select the date and time setting with ▲/▼ on the control button, then press ●.

DAY & TIME: Superimposes the date, hour, and minute onto the image.
DATE: Superimposes the year, month and day onto the image.
OFF: Does not superimpose the date and time onto the image.

After the setting has been completed, set the mode dial to , and shoot the image.

- You can also shoot images with the mode dial set to S*, A*, M* or SCN.
- This setting is maintained even when the power is turned off.

* MVC-CD400 only

Twilight mode

Twilight portrait mode

Landscape mode

Portrait mode

When shooting night scenes, shooting people at night, or shooting landscapes, use the modes listed below to improve the quality of your images.

Twilight mode

Allows you to shoot night scenes without losing the dark atmosphere of the surroundings. The shutter speed becomes slower, so we recommend that you use a tripod to prevent shaking.

- The flash cannot be used in this mode.

Twilight portrait mode

Suitable for shooting portraits in dark places. The shutter speed becomes slower, so we recommend that you use a tripod to prevent shaking.

- Allows you to shoot sharp images of people in dark places without losing the dark atmosphere of the surroundings.
- The flash strobes regardless of the surrounding brightness.

Landscape mode

Focuses only on a distant subject to shoot landscapes, etc.

- You cannot shoot in macro mode.
- The flash does not strobe automatically.

Portrait mode (MVC-CD400 only)

Suitable for shooting portraits. Backgrounds blur away, and the subject is sharpened.

If the shutter speed becomes 1/2 second or slower (MVC-CD250) or 1/25 second or slower (MVC-CD400) in the Twilight or Twilight portrait mode, “NR” is displayed before the shutter speed and the NR slow shutter mode is automatically activated.

NR slow shutter

The NR slow shutter function removes noise from recorded images to provide clean, crisp images. Using a tripod is recommended to prevent shaking.

Press the shutter button fully down.

↓

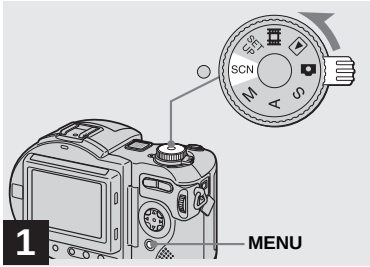
“CAPTURING” is displayed.
The screen turns black.

↓

“PROCESSING” is displayed.

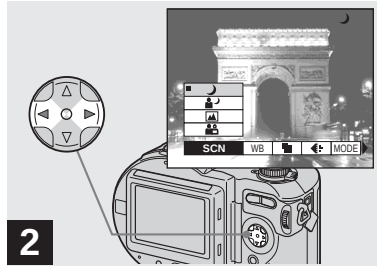
↓

“RECORDING” is displayed, and the image is recorded.



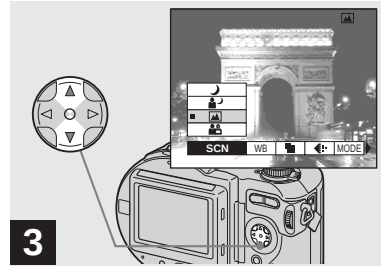
➡ **Set the mode dial to SCN, then press MENU.**

The menu appears.



➡ **Select [SCN] with ◄/► on the control button.**

- (EV), (FOCUS) and (SPOT METER) are displayed on the MVC-CD250 menu (page 62).



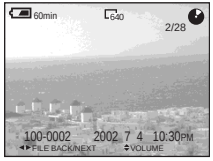
➡ **Select the desired mode with ▲/▼ on the control button.**

The mode is set.
When the setting is complete, press MENU so that the menu disappears from the LCD screen.

- To cancel Scene Selection, set the mode dial to a different mode.
- This setting is maintained even when the power is turned off.

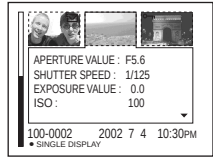
Viewing images on the LCD screen of your camera

Single (single-image) screen



Index (nine-image) screen

Index (triple-image) screen



You can view images shot with your camera almost immediately on the LCD screen. You can select the following three methods for viewing images.

Single (single-image) screen

You can view one image at a time, displayed over the entire screen.

Index (nine-image) screen

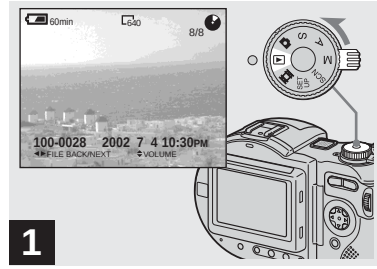
Nine images are displayed simultaneously in separate panels on the screen.

Index (triple-image) screen

Three images are displayed simultaneously in separate panels on the screen. Various image information items are also displayed.

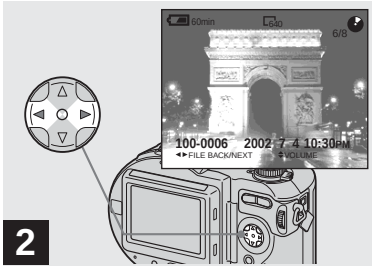
- For a detailed description of the screen indicators, see page 126.
- For details on the movies, see page 95.

Viewing single images



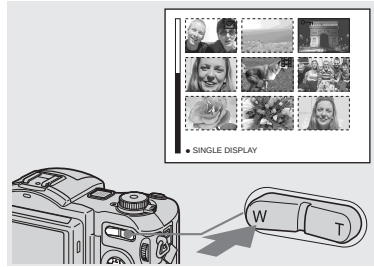
➡ Set the mode dial to ▶, and turn on the power.

The last image you shot appears on the LCD screen.



➡ **Select the desired still image with ◄/► on the control button.**

◄ : To display the preceding image
► : To display the next image

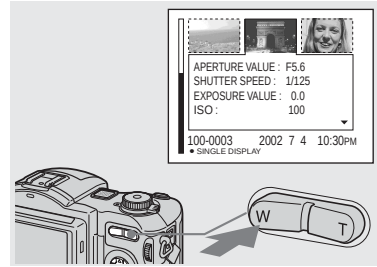


➡ **Press the zoom W button once.**

The display switches to the **Index (nine-image) screen**.

To display the next (previous) index screen

Press ▲/▼/◄/► on the control button to move the yellow frame up/down/left/right.



➡ **Press the zoom W button again.**

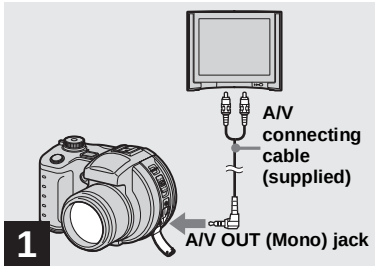
The display switches to the **Index (triple-image) screen**.
Press ▲/▼ on the control button to display the remaining image information.

To display the next (previous) index screen

Press ◄/► on the control button.

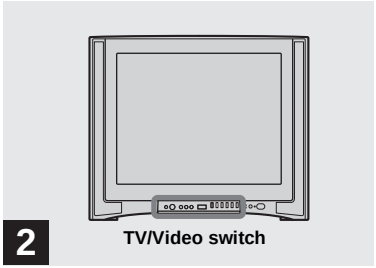
To return to the single-image screen

Press the zoom T button repeatedly, or press ● on the control button.



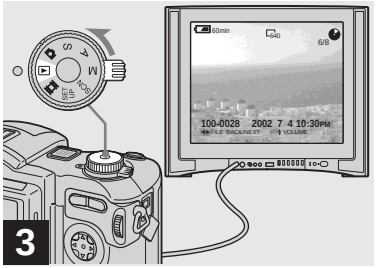
➡ **Connect the A/V connecting cable to the A/V OUT (Mono) jack of the camera and the audio/video input jacks of the TV.**

- If your TV has stereo input jacks, connect the audio plug (black) of the A/V connecting cable to the Lch jack.
- Turn off both your camera and the TV before connecting the camera and the TV with the A/V connecting cable.



➡ **Turn on the TV and set the TV/Video switch to "Video".**

- The name and location of this switch may differ depending on your TV.



➡ **Set the mode dial to ▶, and turn on the camera.**

Press ◀/▶ on the control button to select the desired image.

- When using your camera abroad, it may be necessary to switch the video output signal to match that of your TV system (page 117).

Viewing images on a TV screen

If you want to view images on a TV screen, you need a TV with a video input jack and a video connecting cable.

The color system of the TV must match that of your digital still camera. Check the following lists:

NTSC system

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

PAL system

Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, United Kingdom, etc.

PAL-M system

Brazil

PAL-N system

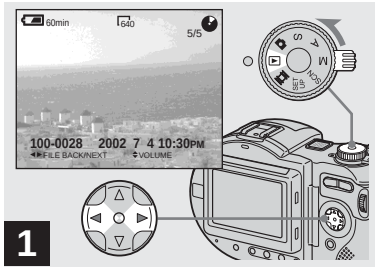
Argentina, Paraguay, Uruguay

SECAM system

Bulgaria, France, Guiana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

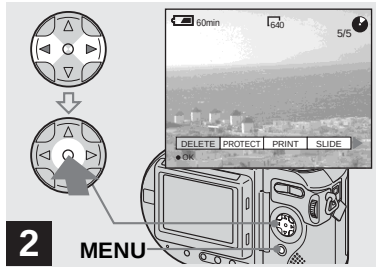
Deleting images

Deleting images in singe-image mode



➡ **Set the mode dial to ▶, and turn on the camera. Press ◀/▶ on the control button to select the image you want to delete.**

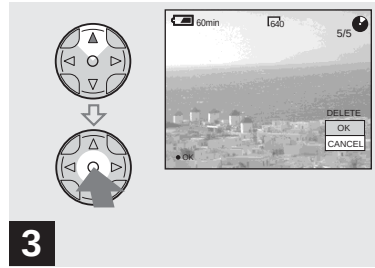
- When using a CD-R, the disc remaining space does not increase even if you delete images.
- When using a CD-RW, the disc remaining space only increases if you delete the last image you shot while is indicated on the LCD screen. If you modify an image, or open and close the disc cover, disappears.



➡ **Press MENU and select [DELETE] with ◀/▶ on the control button, then press ●.**

The image has not yet been deleted at this point.

- If the disc remaining space is not sufficient, you may not be able to delete the image.
- If there are file names on the disc with names having the same last 4 digits as the file name of the image to be deleted, these files are also deleted at the same time.

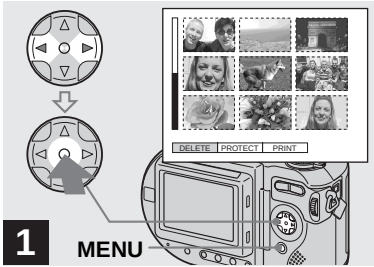


➡ **Select [OK] with ▲ on the control button, then press ●.**

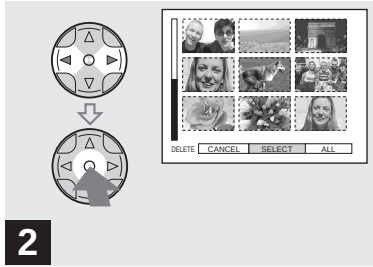
"DISC ACCESS" appears on the LCD screen. When this message disappears, the image has been deleted.

To cancel deleting

Select [CANCEL] with ▼ on the control button, then press ●.

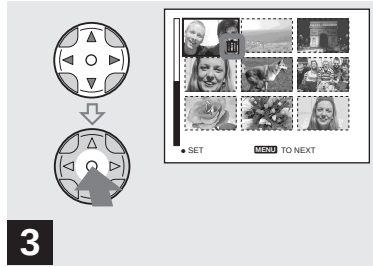


➡ **While an index (nine-image) screen (page 36) is displayed, press MENU and select [DELETE] with ◄/► on the control button, then press ●.**



➡ **Select [SELECT] with ◄/► on the control button, then press ●.**

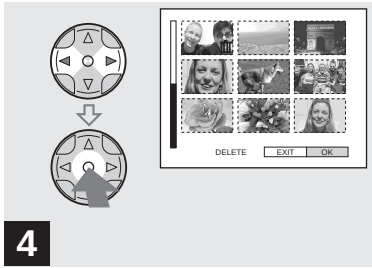
To delete all the images in the screen
Select [ALL] with ◄/► on the control button, then press ●. Select [OK], then press ●. To cancel deleting, select [EXIT], then press ●.



➡ **Select an image you want to delete with ▲/▼/◄/► on the control button, then press ●.**

The 🗑 (delete) indicator appears on the selected image. At this point, the image has not yet been deleted. Repeat this step for all of the images you want to delete.

- To cancel a selection, press ● again so that the 🗑 indicator disappears.

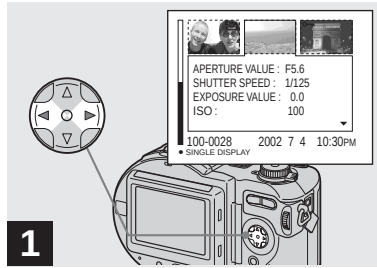


➡ **Press MENU and select [OK] with ◄/► on the control button, then press ●.**

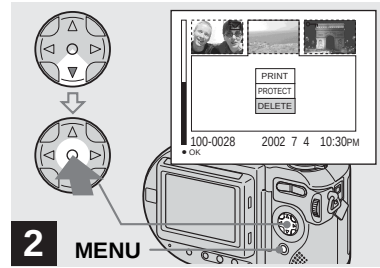
"DISC ACCESS" appears on the LCD screen. When this message disappears, the images have been deleted.

To cancel deleting

Select [EXIT] with ◄ on the control button, then press ●.



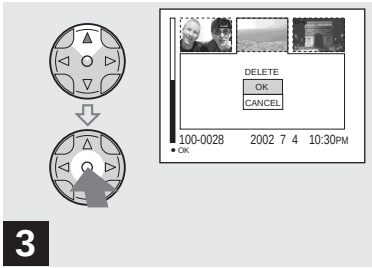
➡ **While an index (triple-image) screen (page 36) is displayed, set the images you want to delete to the center with ◄/► on the control button.**



➡ **Press MENU and select [DELETE] with ▼ on the control button, then press ●.**

The images have not yet been deleted at this point.

Formatting a CD-RW

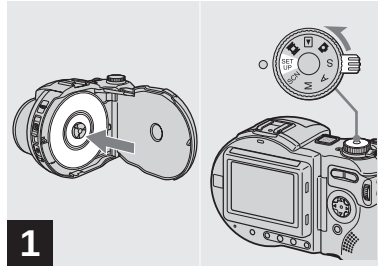


➡ **Select [OK] with ▲ on the control button, then press ●.**

"DISC ACCESS" appears on the LCD screen. When this message disappears, the images have been deleted.

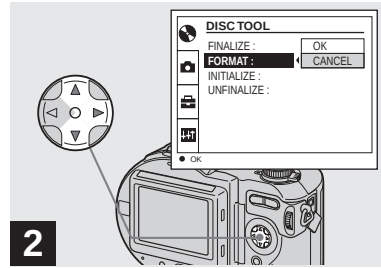
To cancel deleting

Select [CANCEL] with ▼ on the control button, then press ●.



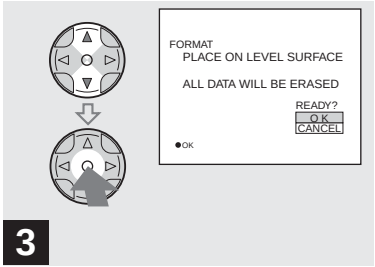
➡ **Place the CD-RW you want to format in the disc tray.**
Set the mode dial to SET UP, and turn on the camera.

- Formatting is performed to delete all the images on the CD-RW or to use a CD-RW formatted with other equipment than this camera. **When you format a CD-RW, all data stored on the disc will be deleted. Check the contents of the disc before formatting. The CD-RW is also automatically initialized after formatting.**



➡ **Select [DISC TOOL] with ▲/▼ on the control button, then press ►. Select [FORMAT] with ▲/▼, then press ►.**

- When you format, be sure to use a fully charged battery pack or the AC power adaptor as the power source.
- A CD-R cannot be formatted.



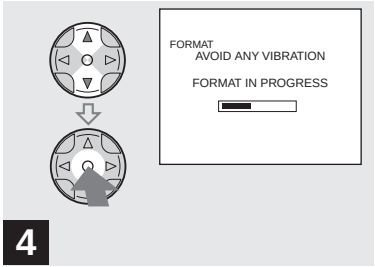
➡ Select [OK] with ▲/▼ on the control button, then press ●.

"FORMAT PLACE ON LEVEL SURFACE" appears on the LCD screen.

To cancel formatting

Select [CANCEL] with ▼/▲ on the control button, then press ●.

- A CD-RW formatted using other equipment than this camera cannot be used with this camera. Format the disc again with this camera.



➡ Select [OK] with ▲/▼, then press ●.

When the message disappears, formatting has been completed.

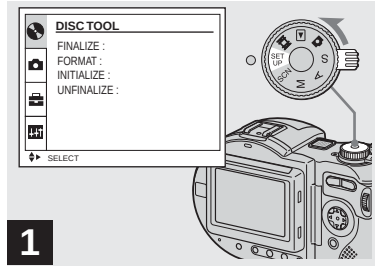
- Formatting takes about seven minutes.
- A CD-RW can be formatted about 300 times.
- When you format a CD-RW, protected images are also deleted.

Finalizing a disc

You must execute finalization before viewing images recorded with your camera through a disc drive. Discs that have not been finalized cannot be read with a disc drive.

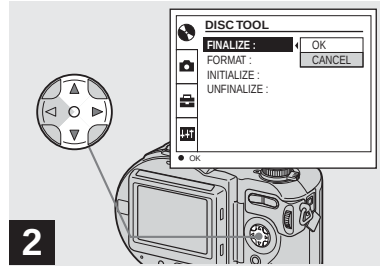
What is finalization?

- Finalization is required to view images recorded with your camera through a disc drive.
- You can record new images on a finalized disc by initializing it again. Initialization is automatically performed when a disc is finalized using the camera. You must execute finalization to view new images through a disc drive. However, each time you execute finalization, the disc remaining space will decrease by approximately 13 MB. Therefore, we recommend that you execute finalization for multiple images at a time.
- You can finalize a disc later, even if you remove it from the camera.
- The disc drive must support MultiRead in order to read discs that have been finalized.

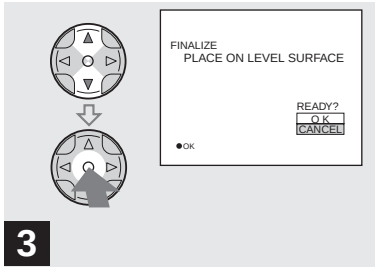


➡ **Set the mode dial to SET UP, and turn on the power.**

The SET UP screen appears on the LCD screen.



➡ **Select [DISC TOOL] with ▲/▼ on the control button, then press ►.**
Select [FINALIZE] with ▲/▼, then press ►.

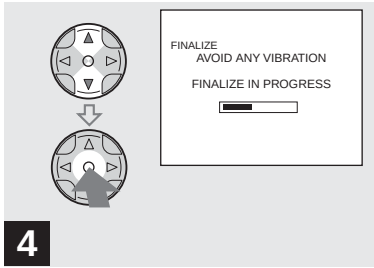


3

➡ **Select [OK] with ▲/▼ on the control button, then press ●.**

"FINALIZE PLACE ON LEVEL SURFACE" appears on the LCD screen.

- When you execute finalization, be sure to use a fully charged battery pack or the AC power adaptor as the power source.



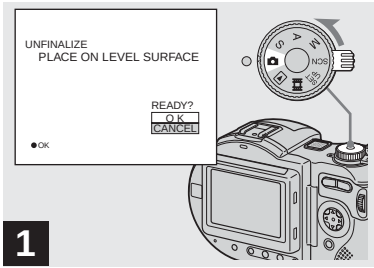
4

➡ **Select [OK] again with ▲/▼ on the control button, then press ●.**

Finalization starts and the disc remaining indicator changes from ◔ to ◕, or from ◔ RW to ◕ RW.
Finalization takes about one minute. Place the camera on a stable surface, and do not shake or strike the camera during finalization.

To cancel finalization

Select [CANCEL] with ▲/▼ on the control button in step 3 or 4, then press ●. Once finalization starts, you cannot cancel it.

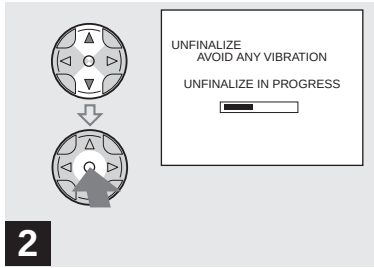


➡ **Set the mode dial to .**

"UNFINALIZE PLACE ON LEVEL SURFACE" appears on the LCD screen.

- When using a CD-RW, you can cancel the last-executed finalization (unfinalization). Once canceled, the disc space used for that finalization is recovered.
- You can also carry out this operation when the mode dial is set to S*, A*, M*, SCN or .

* MVC-CD400 only



➡ **Select [OK] with ▲/▼ on the control button, then press ●.**

Unfinalization starts and the disc remaining indicator changes from to . Unfinalization takes about one minute. Place the camera on a stable surface, and do not shake or strike the camera during unfinalization.

To cancel the unfinalization

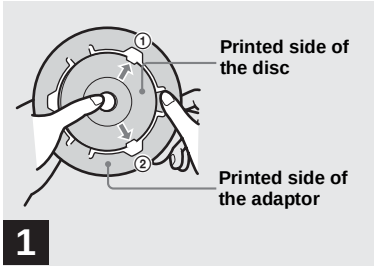
Select [CANCEL] with ▲/▼ on the control button, then press ●. After canceling the unfinalization, you can continue and record images on the CD-RW.

To unfinalize again after canceling the unfinalization

Set the mode dial to SET UP, then select [UNFINALIZE] under [DISC TOOL] in the SET UP settings (page 116).

- You cannot execute unfinalization when you record a new image or edit an image on a CD-RW after executing finalization.

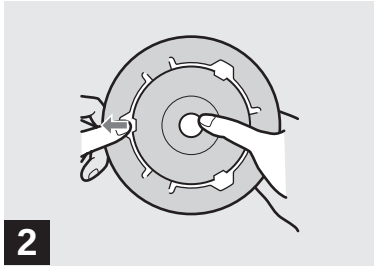
Using the supplied 8 cm CD adaptor



➡ **Slide the disc into the inner groove and under two of the tabs on the inner circle of the adaptor in the order shown by the numbers.**

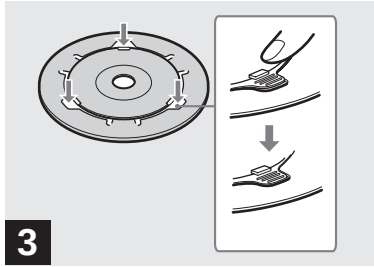
If your disc drive does not support 8 cm CD, use the supplied 8 cm CD adaptor.

- The supplied adaptor may not be compatible with your disc drive. For details, see the operating instructions for the disc drive.
- Use the adaptor at a low speed (8×-speed or less).
- The reverse side of the disc is the recordable surface.
- "SONY" is printed on the reverse side of the adaptor and the surface is lustrous.



➡ **Pull the third tab to the outside and slip the disc into place. Release the third tab and the disc will be held firmly in place.**

- Do not expose the adaptor to direct sunlight or heat sources.
- The adaptor can be used only with Mavica discs. It cannot be used with other 8 cm CD-R/CD-RW.

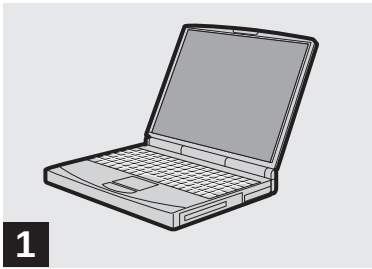


➡ **Check that the disc is set correctly in the grooves of the adaptor, all the tabs are even with the surface of the adaptor, and the disc does not protrude from the adaptor.**

- If the tabs protrude, press them into place, as this may cause your disc drive to malfunction.

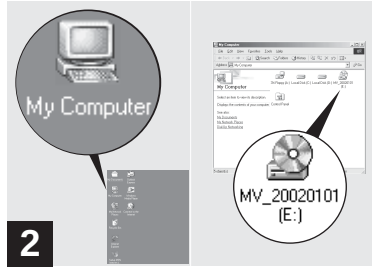
Viewing images through a disc drive

98 2000 XP 98SE Me

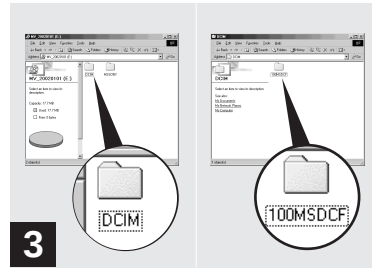


➡ **Start up your computer and insert a finalized disc into the disc drive of your computer.**

- To view images on a CD-RW using a disc drive, the drive must support MultiRead. Consult the drive manufacturer as to whether your drive supports MultiRead.
- This section describes how to view images through a disc drive using Windows Me as an example. The required operations may differ depending on your OS.
- Windows Media Player must be installed on your computer in order to view movies.
- You can use the “PIXELA ImageMixer for Sony” software to view images on your computer. For details, see the software’s help files.



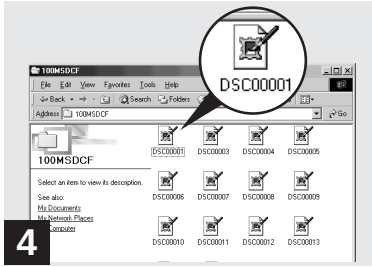
➡ **Open [My Computer] and double-click the drive you use for the disc (Example:[MV.20020101(E:)]).**



➡ **Double-click “DCIM,” then double-click “100MSDCF.”**

The “100MSDCF” folder contents are displayed.

- The “100MSDCF” folder contains the image files you have recorded with this camera.
- The folder names vary depending on the type of images they contain. For details on folder and file names, see “Image file storage destinations and image file names” on page 49.



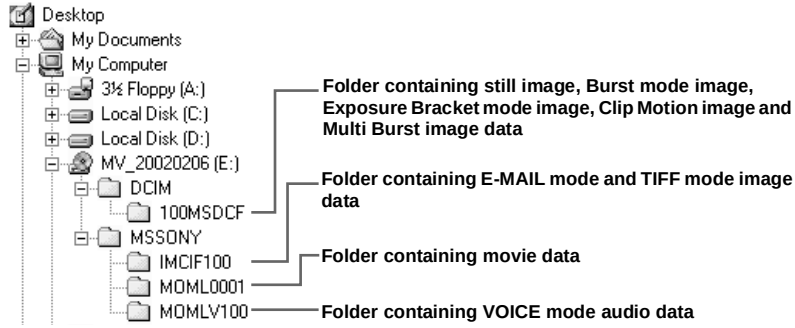
➡ **Double-click the desired image file.**

- Copying a file to the hard disk of your computer before viewing it is recommended. If you play back the file directly from the disc, the image and sound may break off.
- You can view images using a USB connection on a Windows machine (page 51).
- You can view images using a USB connection only on a Macintosh machine running Mac OS X.

Image file storage destinations and image file names

Image files recorded with your camera are grouped as folders in the disc by recording mode.

Example: For Windows Me users



Notes

The meanings of the file names in the following table are as follows:
□□□□ stands for any number within the range from 0001 to 9999.

The numerical portions of the following files are the same.
– A small-size image file shot in E-MAIL mode and its corresponding image file
– An uncompressed image file shot in TIFF mode and its corresponding image file
– An audio file shot in VOICE mode and its corresponding image file
– An image file shot with Clip Motion and its corresponding index image file

Folder	File name	File meaning
100MSDCF	DSC0□□□□.JPG	• Still image file recorded normally • Still image file recorded in – E-MAIL mode (page 81) – TIFF mode (page 81) – VOICE mode (page 82) – BURST 3 mode (page 80) – Exposure Bracket mode (page 75) – Multi Burst mode (page 79)
	CLP0□□□□.GIF	• Clip Motion file recorded in NORMAL mode (page 77)
	CLP0□□□□.THM	• Index image file of Clip Motion file recorded in NORMAL mode
	MBL0□□□□.GIF	• Clip Motion file recorded in MOBILE mode (page 77)
	MBL0□□□□.THM	• Index image file of Clip Motion file recorded in MOBILE mode
IMCIF100	DSC0□□□□.JPG	• Small-size image file recorded in E-MAIL mode (page 81)
	DSC0□□□□.TIF	• Uncompressed image file recorded in TIFF mode (page 81)
MOML0001	MOV0□□□□.MPG	• Movie file recorded normally (page 94)
MOMLV100	DSC0□□□□.MPG	• Audio file recorded in VOICE mode (page 82)

• During PTP connection, the user can optionally assign the upper four digits of the image file number.

Follow the steps below to copy the images you have shot to your computer.

Steps required by your OS (Operating System)

OS	Steps
Windows 98/98SE/2000/Me	Steps ❶ to ❺ (pages 52, 55, 56, 57 and 61)
Windows XP	Steps ❷ to ❺ (pages 55, 56, 59, and 61)
Mac OS X (v10.0/v10.1)	Page 61

- Step ❶ may be unnecessary depending on your OS.
- After the PIXELA PTP Manager is installed, step ❶ is unnecessary.
- When using the PIXELA PTP Manager, movies and still images can be handled in the same manner.

Recommended computer environment

Recommended Windows environment

OS: Microsoft Windows 98, Windows 98SE, Windows 2000 Professional, Windows Millennium Edition, Windows XP Home Edition, or Windows XP Professional
The above OS must be installed at the factory. Operation is not assured in an environment upgraded to the operating systems described above.
CPU: MMX Pentium 200 MHz or faster
USB connector:
Provided as standard

- When using an OS other than Windows XP, installation of PTP Manager is required.

Recommended Macintosh environment

OS: Mac OS X (v10.0/v10.1)
The above OS must be installed at the factory.
USB connector:
Provided as standard

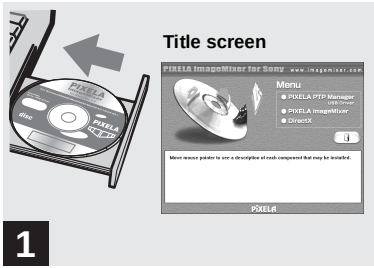
- If you connect two or more USB equipment to a single computer at the same time, some equipment, including your camera, may not operate depending on the type of USB equipment.
- Operations are not guaranteed when using a USB hub.
- Operations are not guaranteed for all the recommended computer environments mentioned above.

Communication with your computer (for Windows users only)

When your computer resumes from the suspend or sleep mode, communication between your camera and your computer may not recover at the same time.

When a USB connector is not provided on your computer

You can copy images using a disc drive. Finalize the disc beforehand.



➡ **Start up your computer, and insert the supplied CD-ROM into the disc drive.**

Do not connect your camera to your computer at this time.

The title screen appears. If it does not appear, double-click (My Computer) ⟶ “Image Mixer” in that order.

- This section describes how to establish a USB connection using Windows Me as an example. The required operations may differ depending on your OS.
- **Close down all applications running on the computer before installing the PIXELA PTP Manager.**
- When using Windows 2000, log on as administrator.

➡ **Click “PIXELA PTP Manager USB Driver” at the title screen.**

The “Choose Setup Language” screen appears.

➡ **Select “English” then click “OK”**

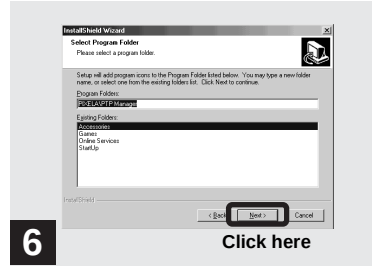
“Welcome to the InstallShield Wizard for PTP Manager” screen appears

➡ **Click “Next.”**

“Choose Destination Location” screen appears.

➡ **Select the destination folder if necessary, then click “Next.”**

“Select Program Folder” screen appears.



➡ **Select “PIXELA PTP Manager” as a program folder, then click “Next.”**

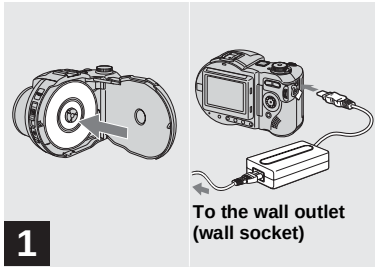
“Start Copying Files” screen appears.

➡ **Check the settings and click “Next.”**

The PIXELA PTP Manager installation starts. When installation finishes, “InstallShield Wizard Complete” screen appears.

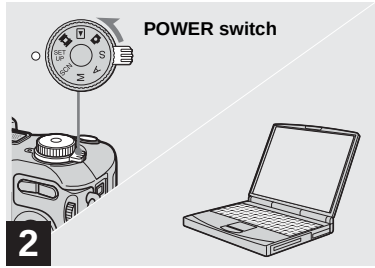
➡ **Click “Finish.”**

The installation of PIXELA PTP Manager is completed.

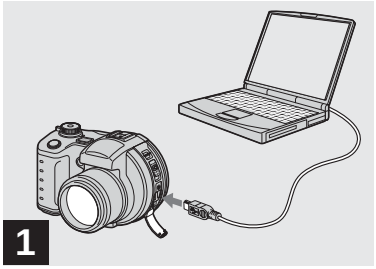


➡ **Insert the disc with the images you want to copy into the camera.**
Connect the power cord (mains lead) to the AC power adaptor and then to a wall outlet (wall socket).

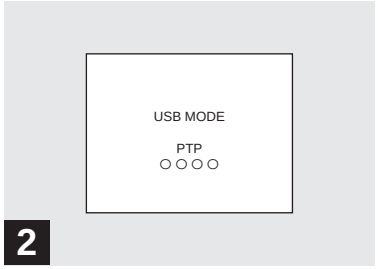
- For further details on the disc, see page 20.
- For further details on the AC power adaptor, see page 16.



➡ **Turn on your computer and the camera.**



➡ Open the jack cover, and connect the supplied USB cable to your camera. Then, connect the other end of the USB cable to your computer.



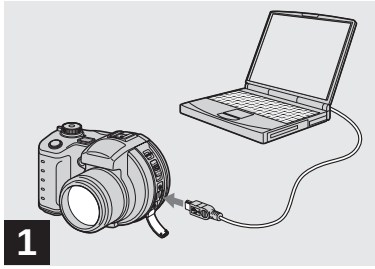
"USB MODE PTP" appears on the LCD screen. When a USB connection is established for the first time, your computer automatically runs the used program to recognize your camera. Wait for a while.

Disconnecting the USB cable from your computer or removing the disc from your camera during USB connection

For Windows 98, 98SE, 2000 or Me users

1 Click "Cancel" and close the window when using the PIXELA PTP Manager

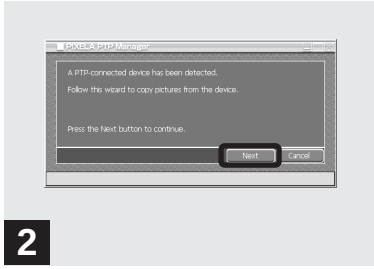
2 Disconnect the USB cable from the jack on the computer, or remove the disc.



➡ **Connect the camera and your computer.**

A wizard screen indicating the start of copying images appears.
It may take some time to download the images from the disc. The downloading progress is displayed on the screen.

• When using Windows XP, see page 59.



➡ **Click “Next.”**

The images stored on the disc are displayed.

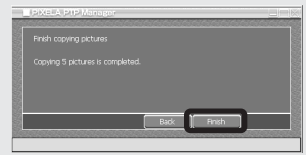
➡ **Select the images that you want to copy, then click “Next.”**

The “Picture Name and Destination” screen appears.

4

➡ **Specify the image group names to be copied and the copy destination, then click “Next.”**

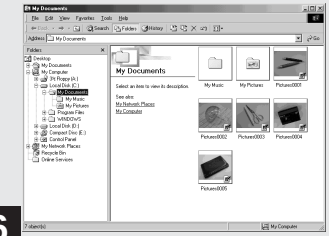
- The images are copied into the “My Documents” folder as an example.



5

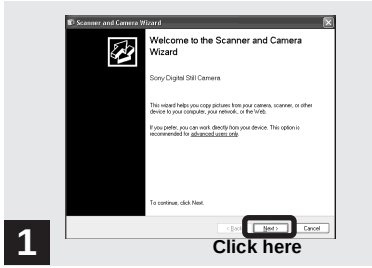
➡ **Click “Finish.”**

The Explorer starts up and the copy destination folder opens.



6

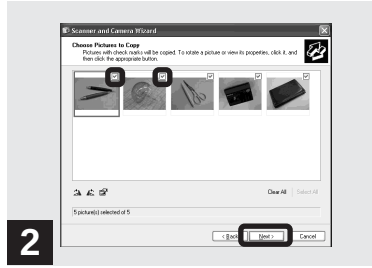
The image is copied to the copy destination folder.



➡ **Click “Next.”**

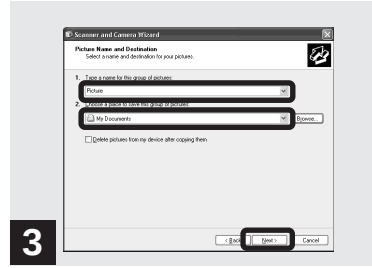
The images stored in the disc are displayed.

- When performing the procedure on page 56, the copy wizard screen appears on the desktop of your computer.



➡ **Click the checkbox of images that you do not want to copy to your computer and remove the checkmark, then click “Next.”**

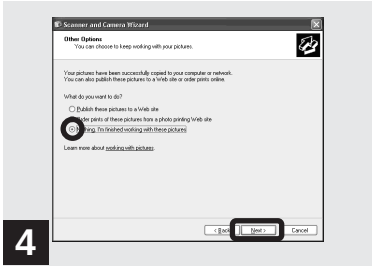
The “Picture Name and Destination” screen appears.



➡ **Specify the image group names to be copied and the copy destination, then click “Next.”**

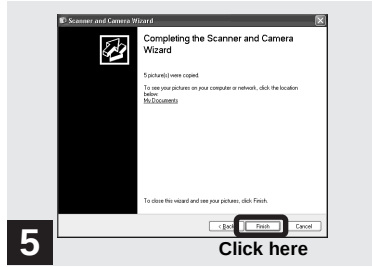
Image copying starts. When the copying is completed, the “Other Options” screen appears.

- The images are copied into the “My Documents” folder as an example.



➡ **Select “Nothing. I’m finished working with these pictures,” then click “Next.”**

The “Completing the Scanner and Camera Wizard” screen appears.



➡ **Click “Finish.”**

The wizard closes.

- To continue copying other images, disconnect the USB cable and reconnect it. Then, perform the procedure from step **1** again.

When the PIXELA PTP Manager does not start up

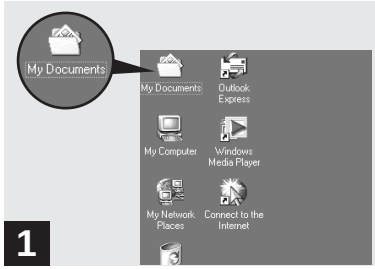
1 Right-click “My Computer,” then click “Properties.”
The “System Property” screen appears.

2 Check whether a device is already installed.
① Click “Device Manager.”
② Double-click “? Other Devices.”
③ Check for a “? Sony PTP” with a ? mark.

3 If a device is installed, remove it.
① Click “? Sony PTP.”
② Click “Delete.”
The “Device deletion confirmation” screen appears.
③ Click “OK” to remove the driver.

Try PIXELA PTP Manager installation again using the supplied CD-ROM (page 52).

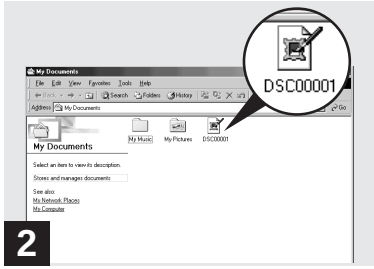
5 Viewing the images on your computer



➡ **Double-click “My Documents” on the desktop.**

The “My Documents” folder contents are displayed.

- This section describes the procedure for copying images to the “My Documents” folder on pages 57 and 59.
- When using Windows XP, double-click “Start” → “My Documents” in that order.
- You can use the “PIXELA ImageMixer for Sony” software to view images on your computer. For details, see the software’s help files.



➡ **Double-click the desired image file.**

The image is displayed.

For Macintosh users

Viewing images on a computer connected with the USB cable (For Mac OS X users only)

Only Mac OS X users can view images using a USB connection.

❶ Preparing your camera

For details, see page 55.

❷ Connecting your camera to your computer

For details, see page 56. Shut down your computer before removing the USB cable or ejecting the disc from the camera.

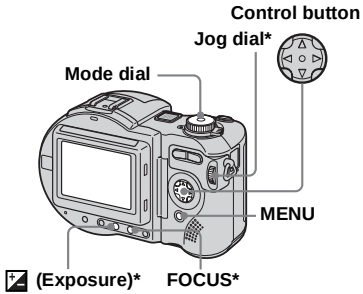
❸ Downloading to your computer using “Image Capture”

The “Image Capture” starts automatically. Download the images following the on-screen directions.

- You may not be able to download movie files when using Mac OS X (v.10.1).

How to setup and operate your camera

The usage of the menus and SET UP screen items that are most frequently used for “Advanced operations” is described below.

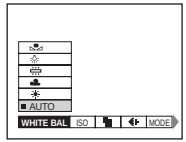


* MVC-CD400 only

Changing the menu settings

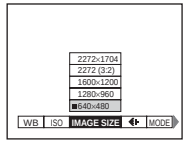
1 Press MENU.

The menu appears.



2 Press ◄/► on the control button to select the item you want to set.

The selected item turns yellow.



3 Press ▲/▼ on the control button to select the desired setting.

The frame of the selected setting turns yellow, and the setting is entered.

- (EV), (FOCUS) and (SPOT METER) appear on the MVC-CD250 menu (page 111).

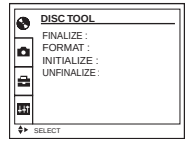
To turn off the menu display

Press MENU.

Changing the items in the SET UP screen

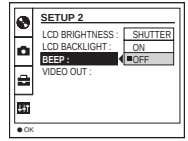
1 Set the mode dial to SET UP.

The SET UP screen appears.



2 Press ▲/▼/◄/► on the control button to select the item you want to set.

The frame of the selected item turns yellow.



3 Press ● on the control button to enter the setting.

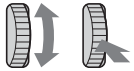
- On MVC-CD250, the [HOLOGRAM AF] (pages 31, 116) item is displayed as [AF ILLUMINATOR] and the [BRACKET STEP] (page 116) item is not displayed in [CAMERA].
- On MVC-CD250, the [CONVERSION LENS] (page 117) and [HOT SHOE] (page 117) items are not displayed in [SETUP 1].

To turn off the SET UP screen display

Set the mode dial to anything other than SET UP.

How to use the jog dial (MVC-CD400 only)

The jog dial is used to change the setting values when shooting with the manual adjustment modes (shutter speed priority mode, aperture priority mode, manual exposure mode), EV adjustment or focusing manually.

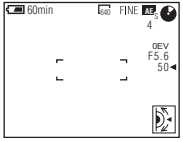


Jog dial

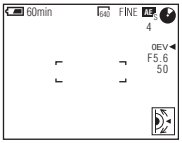
Shooting with the manual adjustment modes

1 Set the mode dial to S, A, or M.

The adjustable values appear on the right side of the screen.

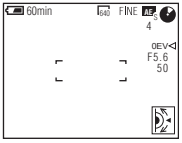


2 Turn the jog dial to select the item you want to adjust.



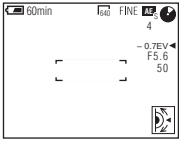
3 Press the jog dial.

The value turns yellow.



4 Turn the jog dial to select the value you want to set.

The displayed value is set.

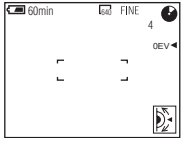


5 To set other items, press the jog dial, then repeat steps 2 to 4.

Shooting with EV adjustment or focusing manually

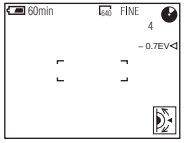
1 Press ✱ once or FOCUS twice.

The adjustable values appear on the right side of the screen. (When you press FOCUS twice, the ☞ (manual focus) indicator appears in the position of the value.)



2 Turn the jog dial to select the value you want to set.

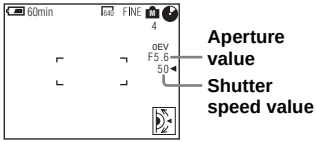
The displayed value is set.



Shooting with the manual adjustments (MVC-CD400 only)

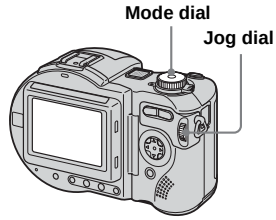
Mode dial: S/A/M

You can manually adjust the shutter speed and aperture values according to the purpose of shooting.



Mode dial	Description
S	Shutter speed priority mode. Other settings are automatically adjusted to attain correct exposure according to the brightness of the subject.
A	Aperture priority mode. Other settings are automatically adjusted to attain correct exposure according to the brightness of the subject.
M	Mode for manually adjusting both the shutter speed and aperture values to achieve the desired shooting condition.

- You cannot make manual adjustments when shooting movies.
- After making the settings, the setting value indicators on the LCD screen may flash when the shutter button is pressed halfway down. You can shoot in this condition, but we recommend that you adjust the flashing values again.



Shutter speed priority mode

This function lets you shoot a fast-moving subject with its motion frozen, or the flow motion of a moving subject.

1/1000 s (shortest) **8 s (longest)**

1 Set the mode dial to S.

2 Select a shutter speed.

Select a shutter speed with the jog dial, then press the jog dial. The shutter speed can be selected from 1/1000 to 8".

If you select a shutter speed of 1/25 second or slower, “NR” is displayed before the shutter speed and the NR slow shutter mode is automatically activated.

- Shutter speeds of one second or longer are indicated with ["] after the value, such as 1".

NR slow shutter

The NR slow shutter function removes noise from recorded images to provide clean, crisp images. Using a tripod is recommended to prevent shaking.

Press the shutter button fully down.

↓

Exposure is performed for the set shutter speed time, the screen turns black, and "CAPTURING" is displayed.

↓

Processing is performed to reduce noise for the set shutter speed time, and "PROCESSING" is displayed.
The shutter sounds at this time.

↓

"RECORDING" is displayed, and the image is recorded.

Aperture priority mode

This function lets you change the focus depth to bring both the subject and background into focus or to shoot a subject with its background unclear.

Aperture value F2 (minimum)

Aperture value F8 (maximum)

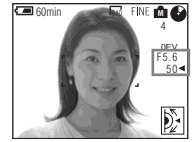
1 Set the mode dial to A.

2 Select an aperture value.

Select an aperture value with the jog dial, then press the jog dial. The aperture value can be selected from F2 to F8.

Manual exposure mode

You can manually adjust the shutter speed and aperture values to achieve the desired shooting condition according to your purpose.



The EV value appears on the LCD screen (page 70). 0EV indicates that the most suitable value has been set by the camera.

1 Set the mode dial to M.

2 Select the shutter speed value indication.

Select the shutter speed value indication with the jog dial, then press the jog dial.

3 Select the shutter speed value.

Select the shutter speed value with the jog dial, then press the jog dial. The shutter speed can be selected from 1/1000 to 8".

4 Select the aperture value indication.

Select the aperture value indication with the jog dial, then press the jog dial.

5 Select the aperture value.

Select the aperture value with the jog dial, then press the jog dial. The aperture value can be selected from F2 to F8.

Choosing a focus mode

Mode dial: (/S/A/M)*/SCN/

Multipoint AF

When you use Multipoint AF, the camera calculates the distance in three places to the left and right and in the center of the image, letting you shoot using the auto focus function without worrying about the image composition. This is useful when it is difficult to focus on the subject because it is not in the center of the frame.
The Multipoint AF is the factory setting.

Focus range select mode (MVC-CD400 only)

The Focus range select mode lets you select from the six AF range modes of Multipoint AF, Center, Right, Left, Top and Bottom. When you select the Center, Right, Left, Top and Bottom modes, the focus is adjusted automatically to the desired point within the AF range finder by AF operation.

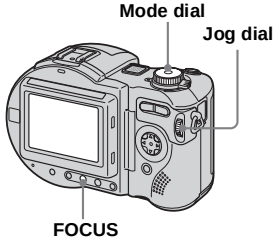
Center AF (MVC-CD250 only)

You can focus automatically using the AF range finder frame in the center of the frame.

* MVC-CD400 only

- When you use digital zoom, the hologram AF or the AF illuminator, AF operates with priority on subjects in or near the center of the frame. In this case, the AF range finder frame is not displayed.

For MVC-CD400



1 Set the mode dial to 📷, S, A, M, SCN, or 🎞.

2 Press FOCUS to select the Focus range select mode.

Each time you press FOCUS, the focus mode changes as follows:

Focus range select mode
↓
Focus preset mode
↓
Auto focus mode

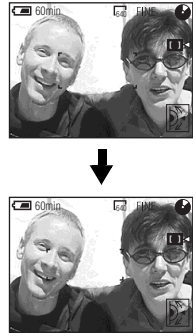
3 Turn the jog dial to select the desired AF range mode.

You can select the AF range mode from Multipoint AF, Center, Right, Left, Top and Bottom.

The AF range mode indicator appears at the upper right on the LCD screen.

When you press the shutter button halfway down, the color of the AF range finder frame changes from white to green when focus is achieved.

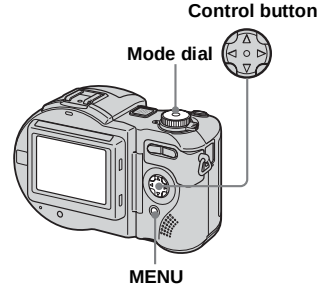
- When you select Multipoint AF in step **3**, the automatically adjusted AF range finder frame appears in green when focus is achieved.



To reactivate auto focusing

Press FOCUS twice in step **3**.

For MVC-CD250



1 Set the mode dial to 📷, SCN, or 🎞.

2 Press MENU.

3 Select ☞ (FOCUS) with ◄/►, then select [MULTI AF] or [CENTER AF] with ▲/▼.

The focus is adjusted automatically using the AF range finder. The color of the AF range finder frame changes from white to green when focus is achieved.

Multipoint AF

Center AF

Shooting with AF lock

Mode dial: /SCN/

When it is difficult to focus because the subject is not in the center of the frame, you can focus using the Focus range select mode (MVC-CD400) or the Center AF mode (MVC-CD250). For example, when shooting two human subjects with a gap between them, the camera may focus on the background visible through the gap. In these cases, use AF lock to ensure the subjects are in correct focus.

AF range finder

- AF lock lets you capture an image with the correct focus even if the subject is at the edge of the frame.

1 Compose the shot so that the subject is centered in the AF range finder frame, then press and hold the shutter button halfway down.

The camera focuses on the subject. When the AE/AF lock indicator changes from flashing to lighted up and there is a beeping sound, the focus adjustment is completed.

AE/AF lock indicator

2 Return to the fully composed shot, and press the shutter button fully down.

The image will be recorded with the proper focus for the subjects.

- You can carry out the AF lock adjustment process any number of times before you press the shutter button fully down.

Setting the distance to the subject

– Focus preset

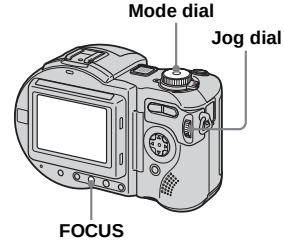
Mode dial: (/S/A/M)*/SCN/

When shooting an image using a preset distance to the subject, or when shooting a subject through a net or window glass, it is difficult to achieve a proper focus using the auto focus function. The Focus preset function is useful in these cases.

* MVC-CD400 only

- Focus setting information is approximate, and should be used as a reference.
- If you point the lens up or down, the error will increase.
- If you shoot a subject within 0.5 m (19 3/4 inches) with the zoom set to the T side, you may not get a clear focus. In such cases, the focus setting information flashes. Press the zoom W button until the indicator stops flashing.
- The focus preset does not work properly when attaching a conversion lens.

For MVC-CD400



1 Set the mode dial to , S, A, M, SCN, or .

2 Press FOCUS twice.

The focus is fixed and the ☞ (manual focus) indicator appears.

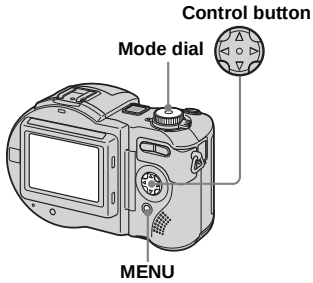
3 Turn the jog dial to select the desired focus setting.

You can select from the following distance settings:
0.1, 0.2, 0.3, 0.5, 0.8, 1.0, 1.5, 2.0, 3.0, 5.0, 7.0, 10, 15, and ∞(infinity)

To reactivate auto focusing

Press FOCUS again in step 3 so that the focus setting information disappears.

For MVC-CD250



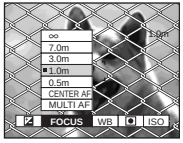
1 Set the mode dial to 📷, SCN, or 🎞.

2 Press MENU.

The menu appears.

3 Select Ⓕ (FOCUS) with ◄/►, then select the distance to the subject with ▲/▼.

You can select from the following distance settings.
0.5m, 1.0m, 3.0m, 7.0m, ∞(infinity)



To reactivate auto focusing

Select Ⓕ in step **3**, then select [MULTI AF] or [CENTER AF].

Adjusting the exposure

– EV adjustment

Mode dial: 📷 (/S/A)*/SCN/🎞

This lets you adjust the exposure value which is set by automatic adjustment. You can select values ranging from +2.0EV to –2.0EV in steps of 1/3EV.

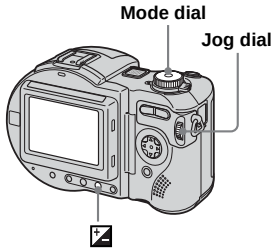
* MVC-CD400 only

To reactivate auto exposure

Return the exposure adjustment value to 0EV.

- If a subject is under extremely bright or dark conditions, or the flash is used, the exposure adjustment may not be effective.

For the MVC-CD400



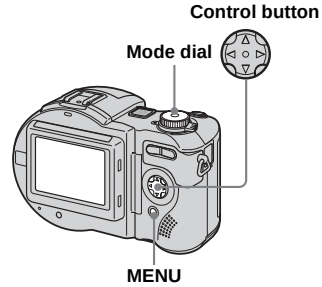
1 Set the mode dial to , S, A, SCN, or .

2 Press .

3 Select the desired exposure value with the jog dial.

Adjust the exposure value while checking the brightness of the background.

For the MVC-CD250



1 Set the mode dial to , SCN, or .

2 Press MENU.

The menu appears.

3 Select (EV) with ◄/►.

The exposure adjustment value is displayed.

4 Select the exposure adjustment value.

Select the exposure adjustment value with ▲/▼.

Adjust the exposure while checking the brightness of the background.

Shooting techniques

Normally, the camera automatically adjusts the exposure. If the image is too dark or too bright as shown below, we recommend that you adjust the exposure manually. When shooting a back-lit subject or a subject in the snow, set the exposure toward +, and when shooting a subject with extremely bright illumination such as a spotlight against a dark background, set the exposure toward –.

Underexposed
→ Adjust toward +

Appropriate exposure

Overexposed
→ Adjust toward –

Metering mode

Mode dial: (/S/A/M)*/SCN/

This function enables you to select the metering mode to suit the shooting conditions and purpose.

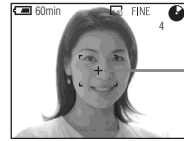
* MVC-CD400 only

Multi-pattern metering (No indicator)
The image is divided into multiple regions and metering is performed for each region. The camera judges the subject position and background brightness, and determines a well-balanced exposure.
The camera is set to multi-pattern metering as the factory setting.

Center-weighted metering ( ) (MVC-CD400 only)
Metering is performed with priority given to the center of the image. The camera determines the exposure based on the brightness of a subject near the center according to the shooting aim.

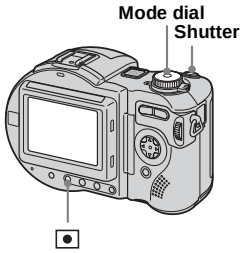
Spot metering ( )
Light is measured only for the specific region where the subject is located. This lets you adjust the exposure to the subject even when the subject is backlit or there is strong contrast between the subject and the background.
Position the spot metering cross hair with the point you want to shoot.

- To focus on the same spot as used for metering, we recommend using the center AF mode (MVC-CD250) (page 66) or the Focus range select mode (Center) (MVC-CD400) (page 66).



Spot metering cross hair

For MVC-CD400



1 Set the mode dial to 📷, S, A, M, SCN, or 🎞.

2 Press ⊙ repeatedly to select the desired setting.

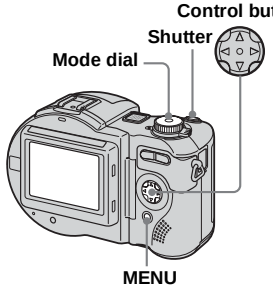
Each time you press ⊙, the metering mode changes as follows:

Multi-pattern metering
↓
Center-weighted metering
↓
Spot metering

3 Shoot the image.

Press and hold the shutter button halfway down, wait until the camera completes the automatic adjustments, then press the shutter button fully down to record the image.

For MVC-CD250



1 Set the mode dial to 📷, SCN, or 🎞.

2 Press MENU.

The menu appears.

3 Select ⊙ (SPOT METER) with ◀/▶, then select [ON] with ▲/▼.

The spot metering cross hair is displayed.

4 Shoot the image.

Press and hold the shutter button halfway down, wait until the camera completes the automatic adjustments, then press the shutter button fully down to record the image.

To cancel spot metering

Select ⊙ (SPOT METER) with ◀/▶ on the control button again, then select [OFF] with ▲/▼.

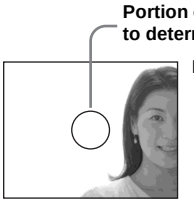
The spot metering cross hair disappears from the LCD, and the camera returns to the normal metering mode.

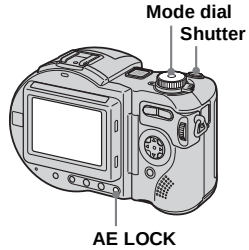
Shooting with the exposure fixed (MVC-CD400 only)

– AE LOCK

Mode dial: /S/A/SCN/

Once you press AE LOCK, the exposure, now captured, is fixed. For instance, this function is convenient in the following use: Measure the exposure of the desired portion of the image using the spot metering function and fix the exposure value by pressing AE LOCK. Then, recompose the picture.

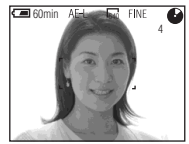




1 Set the mode dial to , S, A, SCN or .

2 Target a portion of the image that has the desired exposure value, then press AE LOCK.

The exposure is fixed and the AE-L indicator appears.



3 Target the subject you want to shoot and press and hold the shutter button halfway down.

The focus is automatically adjusted.

4 Press the shutter button fully down.

To release AE LOCK

Carry out one of the followings:

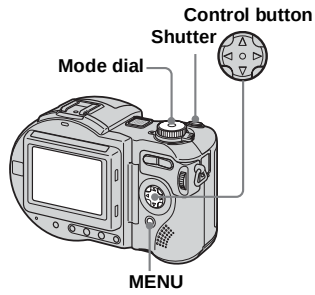
- Press AE LOCK again after step 2.
- Release your finger from the shutter button after step 3.
- Press down the shutter button in step 4.

Shooting three images with the exposure shifted (MVC-CD400 only)

– Exposure Bracket

Mode dial: /S/A/M/SCN

The camera records three images in succession, each with the exposure value shifted. The exposure compensation value can be set between ±1.0EV from the appropriate exposure value in 1/3EV steps.



1 Set the mode dial to SET UP.

The SET UP screen appears.

2 Select [CAMERA] with ▲/▼ and [BRACKET STEP] with ►/▲/▼, then press ►.

3 Select the desired bracket step value with ▲/▼, then press ●.

±1.0EV: Shifts the exposure value by plus or minus 1.0EV.
±0.7EV: Shifts the exposure value by plus or minus 0.7EV.
±0.3EV: Shifts the exposure value by plus or minus 0.3EV.

4 Set the mode dial to , S, A, M, or SCN.

5 Press MENU.

The menu appears.

6 Select [MODE] (REC MODE) with ◄/►, then select [EXP BRKTG] with ▲/▼.

7 Shoot the image.

To return to normal mode

Select [NORMAL] in step 6.

- You cannot use the flash in this mode.
- During shooting in this mode, the images are not displayed on the LCD screen. Compose the image before pressing the shutter button.
- The focus and white balance are adjusted for the first image, and these settings are also used for the other images.
- When the exposure is manually adjusted, the adjusted value is used for the center value.
- The recording interval is approximately 0.5 seconds.
- You cannot select a shutter speed slower than 1/30 second.

Adjusting color tones

– White Balance

Mode dial: (/S/A/M)*/SCN/

Normally, when recording with automatic adjustments, the white balance is automatically set to AUTO and the overall color balance is adjusted according to the shooting conditions. However, when you shoot under fixed conditions or special lighting conditions, you can manually adjust the white balance.

* MVC-CD400 only

AUTO (no display)
Adjusts the white balance automatically

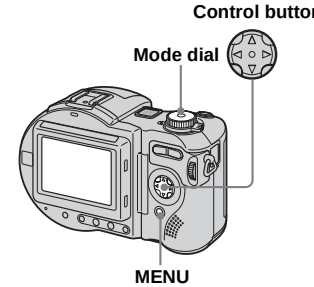
(Daylight)
Shooting outdoors, or shooting a sunrise/sunset, night scene, neon signs, or fireworks

(Cloudy)
Shooting under a cloudy sky

(Fluorescent)
Shooting under fluorescent lighting

(Incandescent)
- Places where the lighting conditions change quickly
- Under bright lighting such as photography studios
- Under sodium or mercury lamps

ONE PUSH ( ) (MVC-CD400 only)
For adjusting the white balance depending on the light source



1 Set the mode dial to , S*, A*, M*, SCN, or .

2 Press MENU.
The menu appears.

3 Select [WB] (WHITE BAL) with ◄/►, then select the desired setting with ▲/▼.

To shoot in one-push white balance mode (MVC-CD400 only)

① Select [ONE PUSH]. The indicator appears.
② Shoot a white object such as a piece of paper filling the screen under the same lighting conditions as you will shoot the subject.
③ Press ▲.

The indicator flashes quickly. When the white balance has been adjusted and stored in the memory, the indicator stops flashing.

To reactivate auto adjustment

Select [AUTO] in step 3.

- Under fluorescent lights that flicker, the white balance adjustment function may not work correctly even though you select (fluorescent).
- When the flash strobes, the manual setting is canceled, and the image is recorded in [AUTO] mode.
- The indicator means:
  Slow flashing: The white balance is not set or was not able to be set.
  Quick flashing: The white balance is being adjusted (after you press ▲).
  Lit steady: The white balance has been set.
- If the indicator keeps flashing even when you press ▲, record in automatic white balance mode.
- When you select the one-push white balance mode, the LCD screen momentarily turns blue.

Shooting techniques

The image is susceptible to lighting conditions. The image looks blue under sunlight in the summer, and looks red under mercury lamps. Human eyes can resolve these problems. However, the camera cannot resolve the problem without making adjustments. Normally, the camera adjusts automatically, but if the image appears in strange colors, we recommend that you change the white balance mode.

Shooting multiple frames

– Clip Motion

Mode dial:

You can shoot a number of consecutive still images (GIF animation). The GIF format has a small file size, making it convenient for creating home pages or attaching images to e-mail.

- Due to the limitations of the GIF format, the number of colors for Clip Motion images is reduced to 256 colors or less. Therefore, the image quality may deteriorate for some images.

NORMAL (160×120)

Clip Motion of up to 10 frames can be recorded. This is suitable for use on home pages, etc.

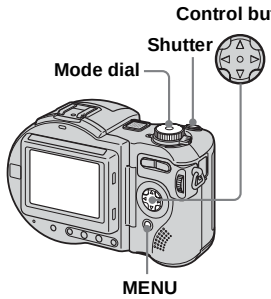
MOBILE (120×108)

Clip Motion of up to 2 frames can be recorded. This is suitable for use with portable data terminals.

- The file size is reduced in MOBILE mode, so the image quality deteriorates.
- For the number of images you can record in Clip Motion mode, see page 110.

Before operation

Set [MOVING IMAGE] to [CLIP MOTION] in the SET UP settings (pages 62 and 116).



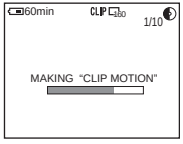
1 Set the mode dial to 🎞.

2 Press MENU.

The menu appears.

3 Select ▦ (IMAGE SIZE) with ◄/►, then select the desired mode with ▲/▼.

4 Shoot the image for the first frame.



5 Shoot the image for the next frame.

Press the shutter button once to shoot the next frame, then repeat this operation until you have shot the desired number of frames.

6 Press ●.

All the frame images are recorded on the disc.

- Before carrying out step 6, the images are saved temporarily in the camera memory. These images are not recorded on the disc yet.
- The date and time are not superimposed onto Clip Motion images.
- When viewing an image recorded in Clip Motion on the index screen, the image may appear different from the actual image.
- GIF files not created on this camera may not be displayed correctly.

To delete some or all of the frame images while making a Clip Motion recording

1 Press ◄ (⟲) in step 4 or 5.
The shot frame images are played back in turn and stop at the last image.

2 Press MENU, and select [DELETE LAST], or [DELETE ALL] with ◄/►, then press ●.

3 Select [OK] with ▲/▼, then press ●.
When [DELETE LAST] is selected in step **2**, each time you repeat steps **1** through **3**, the last frame you shot is deleted.

Shooting in Multi Burst mode

– Multi Burst

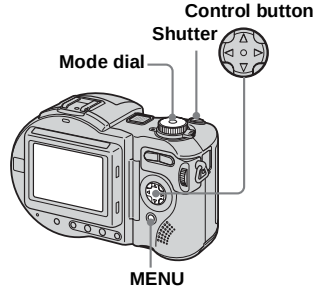
Mode dial: 🎞

This mode records 16 frames in succession each time you press the shutter button. This is convenient for checking your form in sports, for example.

- (EV), (FOCUS) and (SPOT METER) appear on the MVC-CD250 menu (page 62).

Before operation

Set [MOVING IMAGE] to [MULTI BURST] in the SET UP settings (pages 62 and 116).



1 Set the mode dial to 🎞.

2 Press MENU.

The menu appears.

3 Select (INTERVAL) with ◄/►, then select the desired frame interval with ▲/▼.

You can choose the frame interval from among the following.
NTSC: 1/7.5 sec., 1/15 sec., 1/30 sec.
PAL: 1/6.3 sec., 1/12.5 sec., 1/25 sec.
(For information on NTSC/PAL, see pages 38 and 117.)

4 Shoot the image.

The 16 frames are recorded as a single image (image size: 1280×960).

- You cannot use the flash in this mode.
- When you play back images recorded with this camera in Multi Burst mode, the 16 frames will be played back in order at a fixed interval.
- When the images are played back on a computer, all 16 frames will be displayed at the same time as part of one image.
- When Multi Burst images are played back on a camera without the Multi Burst feature, all 16 frames will be displayed at the same time as part of one image, just as they are on a computer.
- For the number of images that can be recorded in Multi Burst mode, see page 110.
- Date and time cannot be superimposed onto images.

To delete recorded images

When using this mode, you cannot delete only certain images within the Multi Burst sequence. When you delete images, all 16 images are deleted at the same time.

1 Set the mode dial to ▶.

2 Press MENU and select [DELETE] from the menu, then press ●.

3 Select [OK], and press ●.

All of the images are deleted.

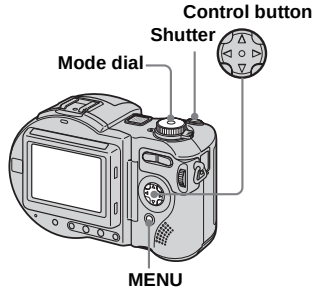
Shooting three images continuously

– Burst

Mode dial: 📷 (/S/A/M)*/SCN

This mode is used for continuous shooting. Each time you press the shutter button in this mode, the camera records three images in succession.

* MVC-CD400 only



1 Set the mode dial to 📷, S*, A*, M*, or SCN.

2 Press MENU.

The menu appears.

3 Select [MODE] (REC MODE) with ◀/▶, then select [BURST] with ▲/▼.

4 Shoot the image.

To return to normal mode

Select [NORMAL] in step 3.

- You cannot use the flash in this mode.
- During shooting in this mode, the images are not displayed on the LCD screen. Compose the image before pressing the shutter button.
- The recording interval is approximately 0.5 seconds.
- You cannot select a shutter speed slower than 1/30 second.

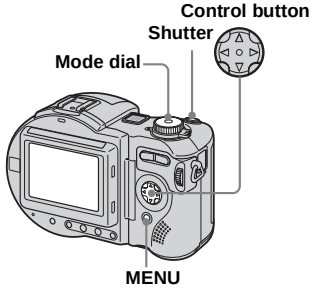
Shooting still images in TIFF mode

– TIFF

Mode dial: (/S/A/M)*/SCN

This mode records an image without compression, so the image quality does not deteriorate. Images recorded in this mode are suitable for printing with a high-quality image. A JPEG (compressed) format image is also recorded at the same time.

* MVC-CD400 only



1 Set the mode dial to , S*, A*, M*, or SCN.

2 Press MENU.

The menu appears.

3 Select [MODE] (REC MODE) with ◀/▶, then select [TIFF] with ▲/▼.

4 Shoot the image.

To return to normal mode

Select [NORMAL] in step 3.

- JPEG images are recorded in the image size selected by the (IMAGE SIZE) menu (page 22). TIFF images are recorded in [2272×1704] (MVC-CD400) or [1600×1200] (MVC-CD250) size except when [2272 (3:2)] (MVC-CD400) or [1600 (3:2)] (MVC-CD250) is selected.
- Writing data takes more time than in normal recording mode.
- For the number of images you can record in TIFF mode, see page 110.

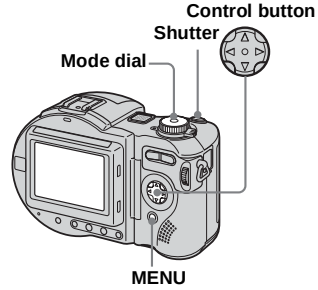
Shooting still images for e-mail

– E-mail

Mode dial: (/S/A/M)*/SCN

In E-mail mode, a small-size image that is suitable for e-mail transmission is also recorded at the same time as recording a normal still image. (See page 22 for the normal still image sizes.)

* MVC-CD400 only



1 Set the mode dial to , S*, A*, M*, or SCN.

2 Press MENU.

The menu appears.

3 Select [MODE] (REC MODE) with ◄/►, then select [E-MAIL] with ▲/▼.

4 Shoot the image.

To return to normal mode

Select [NORMAL] in step 3.

- For instructions on how to attach images to an e-mail message, consult the User's Manual of your e-mail software.
- For the number of images you can record in E-mail mode, see page 110.

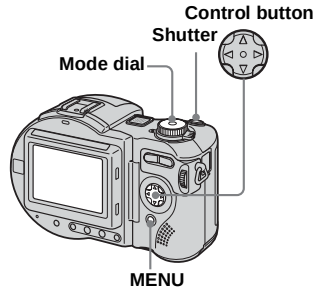
Shooting still images with audio files

– Voice

Mode dial: (/S/A/M)*/SCN

In Voice mode, an audio track is also recorded at the same time as recording a normal still image.

* MVC-CD400 only



1 Set the mode dial to , S*, A*, M*, or SCN.

2 Press MENU.

The menu appears.

3 Select [MODE] (REC MODE) with ◄/►, then select [VOICE] with ▲/▼.

4 Shoot the image.

If you press and release the shutter button, sound is recorded for five seconds.

If you hold down the shutter button, sound is recorded until you release the shutter button for up to 40 seconds.

To return to normal mode

Select [NORMAL] in step 3.

- For the number of images you can record in Voice mode, see page 110.

Adding special effects

– Picture Effect

Mode dial: (/S/A/M)*/SCN/

You can digitally process images to obtain special effects.

SOLARIZE

The light contrast is clearer and the picture looks like an illustration.

B&W

The picture is monochrome (black and white).

SEPIA

The picture is sepia-toned like an old photograph.

NEG.ART

The color and brightness of the picture are reversed as in a negative.

* MVC-CD400 only

1 Set the mode dial to , S*, A*, M*, SCN, or .

2 Press MENU.

The menu appears.

3 Select [PFX] (P. EFFECT) with ◄/►, then select the desired mode with ▲/▼.

To cancel Picture Effects

Select [OFF] in step 3.

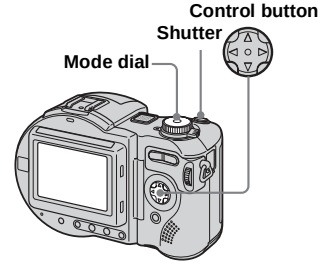
Confirming whether to record images

– Confirm before write

Mode dial: (/S/A/M)*/SCN/

When this function is activated, recorded images are temporarily stored in the camera memory, letting you confirm whether or not to save the images you have recorded on a disc. If you delete an unwanted image before recording, the disc remaining space does not decrease.

* MVC-CD400 only

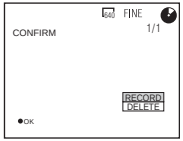


1 Set the mode dial to SET UP.

2 Select [SETUP 1] with ▲/▼, [CONFIRM B. WRITE] with ►/▲/▼, and [ON] with ►/▲/▼, then press ●.

3 **Set the mode dial to , S*, A*, M*, SCN or .**

4 **Record the image.**



5 **Select [RECORD] or [DELETE].**

If you select [RECORD]

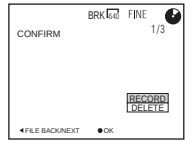
"RECORDING" appears on the screen, and the image will be recorded on the disc.

If you select [DELETE]

Select [OK], then press ● to not record the image on the disc.
Select [CANCEL], then press ● to return to the previous screen.

To confirm recording of images shot in the Exposure Bracket or Burst modes

You can confirm whether to record each of the images by pressing ◀/▶ in step **5** and displaying the three images in order.



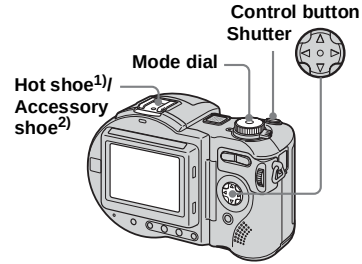
Using an external flash

Mode dial: (/S/A/M)*/SCN/

* MVC-CD400 only

Using the Sony HVL-F1000 Flash

You can mount the Sony HVL-F1000 flash on the hot shoe of your camera. Using the HVL-F1000 will allow you to shoot more vivid flash pictures than when using an ordinary external flash.



1) MVC-CD400
2) MVC-CD250

1 Mount the HVL-F1000 external flash on the hot shoe[1] or accessory shoe[2].

2 Plug the flash into the ACC jack.

3 Turn on the HVL-F1000.

4 Shoot the image.

The built-in flash does not strobes.

Using a commercially available external flash (MVC-CD400 only)

You can mount a commercially available external flash that supports hot shoe.

1 Mount the external flash to the hot shoe.

2 Set the mode dial to SET UP.

3 Select [SETUP 1] with ▲/▼, [HOT SHOE] with ►/▲/▼, [ON] with ►/▲/▼, then press ●.

4 Turn on the external flash.

For details, please consult the operating instructions supplied with your flash.

5 Set the mode dial to M or A.

The flash also strobes when the mode dial is set to , S or SCN, but we recommend recording with the mode dial set to M or A when using a flash without an auto adjustment function (full flash).

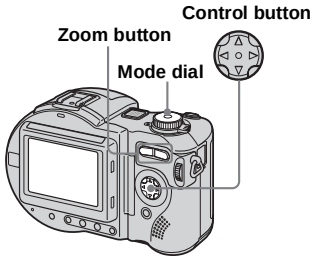
6 Shoot the image.

- Set the most appropriate aperture value according to the guide number of the flash used and the distance to the subject.
- The flash guide number varies according to the ISO sensitivity of the camera, so be sure to check the ISO number.
- The flash does not strobe when shooting in Burst, Exposure Bracket, Twilight, MPEG movie or Multi Burst mode.
- Note that the camera may not function properly or may malfunction when using a flash manufactured by another company for a specific camera (generally a flash with multiple contact points on the hot shoe), a high-voltage type flash, or a flash accessory.
- When using the built-in flash or using the optional external flash, set [HOT SHOE] to [OFF].

Enlarging a portion of a still image

Mode dial: ▶

You can enlarge a part of an image up to five times the original size. You can also record the magnified image as a new file.



*Enlarging an image – **Playback zoom***

1 Set the mode dial to ▶.

2 Display the image to be enlarged.

3 Press the zoom T button to zoom in the image.

4 Press the control button repeatedly to select the desired portion of the image.

▲: To view more of the top of the image
▼: To view more of the bottom of the image
◄: To view more of the left side of the image
►: To view more of the right side of the image

5 Press the zoom T button repeatedly to enlarge the portion of the image selected in step 4.

To cancel playback zoom

Press ●.

- You cannot use playback zoom for movies (MPEG MOVIE), Clip Motion images and Multi Burst images.
- If you press the zoom W button when viewing images that have not been enlarged, the index screen appears (page 36).
- You can enlarge the images displayed with the quick review function by performing steps 3 to 5.

Recording an enlarged image – ***Trimming***

1 Press MENU after playback zoom.

2 Select [TRIMMING] with ►, then press ●.

3 Select the image size with ▲/▼, then press ●.

The image is recorded, and the image on the LCD screen returns to the normal size after recording.

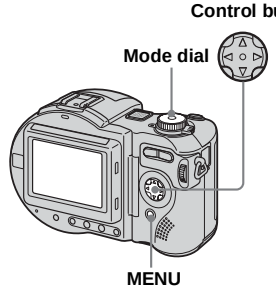
- The trimmed image is recorded as the newest file, and the original image is retained.
- The quality of trimmed images may be deteriorated.
- You cannot trim to an image size of 3:2.
- You cannot trim uncompressed (TIFF) images.
- If you trim an image, the disc remaining space will decrease.
- If the disc remaining space is not sufficient, you may be unable to trim an image.

Playing back successive images

– Slide Show

Mode dial: ▶

You can play back recorded images in order. This function is useful for checking your images or for presentations, etc.



1 Set the mode dial to ▶.

2 Press MENU.

The menu appears.

3 Select [SLIDE] with ◄/►, then press ●.

Set the following items with ▲/▼/◄/►.

INTERVAL settings
5 sec/10 sec/30 sec/1 min

REPEAT
ON: Plays back images in a continuous loop (approx. 20 min.).
OFF: After all the images have been played back, the slide show ends.

The slide show does not end until all the images are played back even if it take longer than 20 minutes.

4 Select [START] with ▲/▼/►, then press ●.

The slide show begins.

To cancel the slide show setting

Select [CANCEL], then press ● in step 3.

To stop slide show playback

Press ●, select [EXIT] with ►, then press ● again.

To skip to the next/previous image during the slide show

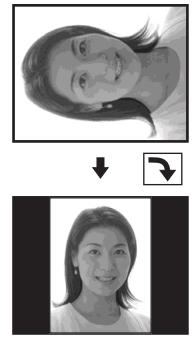
Press ► (next) or ◄ (previous).

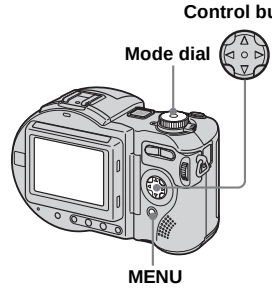
- The interval setting time may vary depending on the image size.

Rotating still images

Mode dial: ►

You can rotate image recorded in portrait orientation and display it in landscape orientation.





1 Set the mode dial to ►, and display the image to rotate.

2 Press MENU.

The menu appears.

3 Select [ROTATE] with ◄/►, then press ●.

4 Select ↶ or ↷ with ▲/▼, then rotate the image with ◄/►.

5 Select [OK] with ▲/▼, then press ●.

To cancel rotation

Select [CANCEL] in step 4, then press ●.

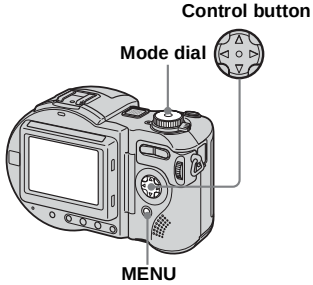
- You cannot rotate protected images (page 89) and images recorded as movies (MPEG MOVIE), Clip Motion, Multi Burst or TIFF images.
- You may not be able to rotate images shot with other cameras.
- Also, when viewing images on a computer, the image rotation information may not be reflected depending on the application software.
- If you rotate an image, the disc remaining space will decrease.
- If the disc remaining space is not sufficient, you may not be able to rotate an image.

Protecting images

– Protect

Mode dial: ▶

This function protects images against accidental erasure. Note that when you format a CD-RW (page 42), all the images recorded on that CD-RW will be deleted even if they are protected.



- If you protect an image, the disc remaining space will decrease. If you cancel the protection, the disc remaining space will also decrease.
- If the disc remaining space is not sufficient, you may not be able to protect an image.

In single-image mode

1 Set the mode dial to ▶.

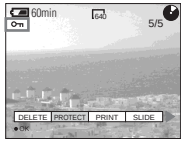
2 Display the image you want to protect with ◀/▶.

3 Press MENU.

The menu appears.

4 Select [PROTECT] with ◀/▶, then press ●.

The displayed image is protected. The 🔑 (protect) indicator appears on the image.



To cancel the protection

Press ● again in step **4**. The 🔑 (protect) indicator disappears.

In index (nine-image) mode

1 Set the mode dial to ▶, then press the zoom W button once to display the index (nine-image) screen.

2 Press MENU.

The menu appears.

3 Select [PROTECT] with ◀/▶, then press ●.

4 Select [SELECT] with ◀/▶, then press ●.

5 Select the image you want to protect with ▲/▼/◀/▶, then press ●.

The 🔑 (protect) indicator appears on the selected image.

6 Repeat step 5 to protect other images.

7 Press MENU.

The menu appears.

8 Select [OK] with ►, then press ●.

The selected images are protected.

To exit the Protect function

Select [CANCEL] in step 4 or select [EXIT] in step 8, then press ●.

To cancel individual protection

Select the image to be unprotected, then press ● in step 5. Repeat this operation for all images that are to be unprotected. Press MENU, select [OK], and then press ●.

To protect all images

Select [ALL] in step 4, and press ●. Select [ON], then press ●.

To cancel all protection

Select [ALL] in step 4, and press ●. Select [OFF], then press ●.

In index (triple-image) mode

1 Set the mode dial to ▶, then press the zoom W button twice to display the index (triple-image) screen.

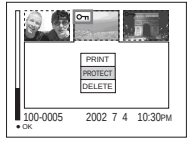
2 Display the image you want to protect in the center position with ◄/►.

3 Press MENU.

The menu appears.

4 Select [PROTECT] with ▲/▼, then press ●.

The center image is protected. The 🔑 (protect) indicator appears on the image.



5 To protect other images, display the image you want to protect in the center position with ◄/►, and repeat step 4.

To cancel previously set protection

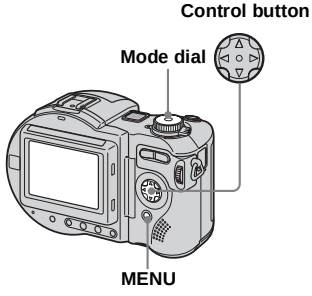
Select the image to be unprotected, and press ● in step 4. To cancel protection of all images, repeat this process for each image.

Changing image size

– Resize

Mode dial: ▶

You can change the image size of a recorded image, and save it as a new file. You can resize to the following sizes.
2272×1704 (MVC-CD400 only), 1600×1200, 1280×960, 640×480
The original image is retained even after resizing.



1 Set the mode dial to ▶.

2 Display the image you want to resize with ◀/▶.

3 Press MENU.
The menu appears.

4 Select [RESIZE] with ◀/▶, then press ●.

5 Select the desired size with ▲/▼, then press ●.

To cancel resizing

Select [CANCEL] in step **5**, then press ●.

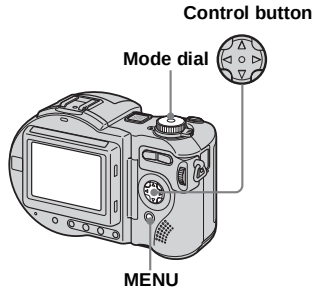
- The resized image is recorded as the newest file. The original image is retained.
- You cannot change the size of movies (MPEG MOVIE), Clip Motion, Multi Burst or TIFF images.
- When you change from a small size to a large size, the image quality deteriorates.
- You cannot resize to an image size of 3:2.
- When you resize a 3:2 image, the upper and lower black portions will be displayed on the LCD screen.
- If you resize an image, the disc remaining space will decrease.
- If the disc remaining space is not sufficient, you may not be able to resize an image.

Choosing images to print

– Print mark

Mode dial: ▶

You can mark a print mark on still images shot with your camera. This mark is convenient when you have images printed at a shop that conforms with the DPOF (Digital Print Order Format) standard.



- You cannot mark movies (MPEG MOVIE) or Clip Motion images.
- In E-mail mode, a print mark is marked on the normal size image that is recorded at the same time.
- When you mark images shot in Multi Burst mode, all the images are printed on one sheet divided into 16 panels.

- If you mark an image shot in TIFF mode with a print mark, only the uncompressed image is printed, and the JPEG image recorded at the same time is not printed.
- If you mark an image with a print mark, the disc remaining space will decrease. If you unmark the print mark, the disc remaining space will also decrease.
- If the disc remaining space is not sufficient, you may not be able to mark an image with a print mark.
- Make sure to finalize the disc before having images printed at a shop (page 44).

In single-image mode

1 Set the mode dial to ▶.

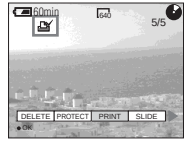
2 Display the image you want to print with ◀/▶.

3 Press MENU.

The menu appears.

4 Select [PRINT] with ◀/▶, then press ●.

The (print) mark is marked on the displayed image.



To unmark the print mark

Press ● again in step **4**. The (print) mark disappears.

In index (nine-image) mode

1 Set the mode dial to ▶, then press the zoom W button once to display the index (nine-image) screen.

2 Press MENU.

The menu appears.

3 Select [PRINT] with ◀/▶, then press ●.

4 Select [SELECT] with ◀/▶, then press ●.

- When marking print marks, you cannot select [ALL].

5 Select the image you want to print with ▲/▼/◀/▶, then press ●.

The (print) mark appears on the selected image.

6 Repeat step 5 to print other images.

7 Press MENU.

The menu appears.

8 Select [OK] with ►, then press ●.

The (print) mark setting is completed.

To unmark selected print marks

Select the images to be unmarked in step 5, then press ●.

To unmark all the print marks

Select [ALL] in step 4, then press ●.
Select [OFF], then press ●.

To exit the Print Mark function

Select [CANCEL] in step 4, or select [EXIT] in step 8, then press ●.

In index (triple-image) mode

1 Set the mode dial to ▶, then press the zoom W button twice to display the index (triple-image) screen.

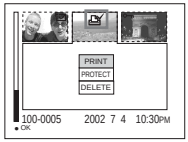
2 Display the image you want to print in the center position with ◄/►.

3 Press MENU.

The menu appears.

4 Select [PRINT] with ▲/▼, then press ●.

The (print) mark is marked on the center image.



5 To print other images, display the image you want to print in the center position with ◄/►, and repeat step 4.

To unmark the print mark

Press ● again in step 4. The (print) mark disappears.

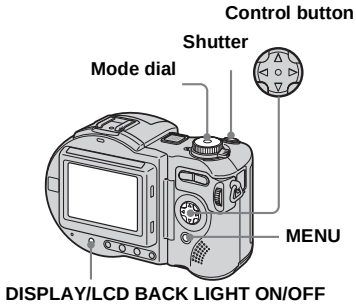
Shooting movies

Mode dial: 🎞

You can shoot movies (MPEG MOVIE) with sound using your camera.

Before starting

Set [MOVING IMAGE] to [MPEG MOVIE] in the SET UP settings (pages 62 and 116).



1 Set the mode dial to 🎞.

2 Press MENU.

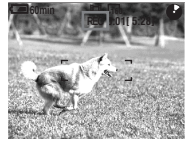
The menu appears.

3 Select ▦ (IMAGE SIZE) with ◄/►, then select the desired mode with ▲/▼.

You can choose from 320 (HQX), 320×240, or 160×112.
For details on the recording time for each image size, see page 110.

4 Press the shutter button fully down.

"REC" appears on the screen and the camera starts recording the image and sound.



- Recording stops when the disc is full.

5 Press the shutter button fully down again to stop recording.

Indicators during shooting

The screen indicators are not recorded. Each time you press DISPLAY/LCD BACK LIGHT ON/OFF, the status of the LCD screen changes as follows: Indicators off → LCD backlight off → All indicators on.
For a detailed description of the indicators, see page 125.

Shooting close-ups (Macro)

Set the mode dial to 🎞 and follow the procedure on page 28.

Using the self-timer

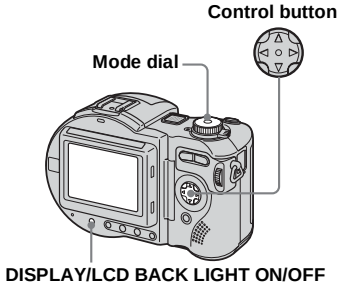
Set the mode dial to 🎞 and follow the procedure on page 29.

- The flash does not function when shooting movies.
- The date and time are not superimposed onto movies.
- When shooting movies (MPEG MOVIE) with Multipoint AF, the distance to the center of the screen is estimated as an average, so the AF works even with a certain amount of vibration. The Focus range select mode (Center, Right, Left, Top and Bottom) (MVC-CD400) and the Center AF mode (MVC-CD250) focus using the AF range finder, so this is convenient when you want to focus only on the subject.

Viewing movies on the LCD screen

Mode dial: ▶

You can view movies on the LCD screen with sound from the speaker.



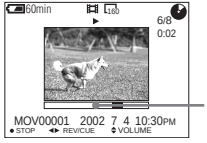
1 Set the mode dial to ▶.

2 Select the desired moving image with ◀/▶.

The movie is displayed one size smaller than still images.

3 Press ●.

The movie and sound are played back. During playback, ▶ (PLAYBACK) appears on the LCD screen.



To stop playback

Press ● again.

To advance or rewind the movie

Press ◀/▶ during playback.
To return to the normal playback, press ●.

To adjust the volume

Press ▲/▼ to adjust the volume.

High quality movies [320 (HQX)]

Movies are displayed over the entire screen.

Indicators during viewing movies

Each time you press DISPLAY/LCD BACK LIGHT ON/OFF, the status of the LCD screen changes as follows: Indicators off ⟶ LCD backlight off ⟶ All indicators on.
For a detailed description of the indicators, see page 126.

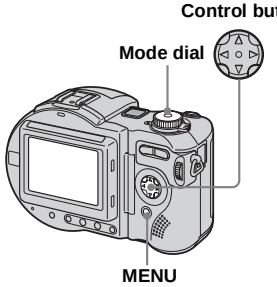
- The procedure for viewing movies on a TV is the same as that for viewing still images (page 37).

Deleting movies

– Delete

Mode dial: ▶

You can delete unwanted movies.



- When using a CD-R, the disc remaining space does not increase even if you delete images.
- When using a CD-RW, the disc remaining space only increases if you delete the last image you shot while is indicated on the LCD screen. If you modify an image, or open and close the disc cover, disappears.
- If the disc remaining space is not sufficient, you may not be able to delete an image.

In single-image mode

1 Set the mode dial to ▶.

2 Display the image you want to delete with ◀/▶.

3 Press MENU.

The menu appears.

4 Select [DELETE] with ◀/▶, then press ●.

The image has not yet been deleted at this point.

5 Select [OK] with ▲, then press ●.

"ACCESSING" appears on the LCD screen. When the message disappears, the image has been deleted.

To cancel deletion

Select [CANCEL] in step 5, then press ●.

In index (nine-image) mode

1 Set the mode dial to ▶, then press the zoom W button once to display an index (nine-image) screen.

2 Press MENU.

The menu appears.

3 Select [DELETE] with ◀/▶, then press ●.

4 Select [SELECT] with ◀/▶, then press ●.

5 Select the image you want to delete with ▲/▼/◀/▶, then press ●.

The 🗑 (delete) indicator appears on the selected image.

The image has not yet been deleted at this point.

6 Repeat step 5 to delete other images.

7 Press MENU.

The menu appears.

8 Select [OK] with ◄/►, then press ●.

When the message “DISC ACCESS” disappears, the images have been deleted.

To cancel deletion

Select [EXIT] in step 8, then press ●.

To delete all images

Select [ALL] in step 4, then press ●. To cancel deletion, select [CANCEL] with ◄/►, then press ●.

In index (triple-image) mode

1 Set the mode dial to ▶, then press the zoom W button twice to display an index (triple-image) screen.

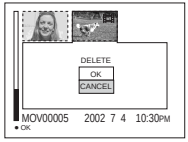
2 Display the image you want to delete in the center position with ◄/►.

3 Press MENU.

The menu appears.

4 Check that [DELETE] is selected, then press ●.

The image has not yet been deleted at this point.



5 Select [OK] with ▲, then press ●.

“DISK ACCESS” appears on the LCD screen. When the message disappears, the image has been deleted.

To cancel deletion

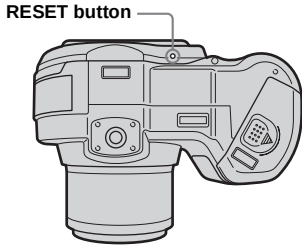
Select [CANCEL] in step 5, then press ●.

Troubleshooting

If you experience trouble with your camera, try the following solutions.

1 First check the items on the tables below.
If code displays "C:□□:□□" appear on the LCD screen, the self-diagnostics display function is working (page 108).

2 Should your camera still not work properly, press the RESET button on the bottom of the camera, then turn on the power again. (All the settings including date and time are cleared.)



3 Should your camera still not work properly, consult your Sony dealer or local authorized Sony service facility.

Battery pack and power

Symptom	Cause	Solution
You cannot charge the battery pack.	• The camera is turned on.	→ Turn the camera off (page 17).
The battery remaining indicator is incorrect, or sufficient battery remaining indicator is displayed but the power runs out soon.	• You have used the camera for a long time in an extremely hot or an extremely cold location. • The battery pack is dead (page 121). • The battery pack is discharged. • A deviation has occurred in the remaining battery time.	— → Replace the battery pack with a new one. → Install a charged battery pack (page 13). → Fully charge the battery pack (page 14).
The battery life is short.	• You are shooting/viewing images in an extremely cold location. • The battery pack is not charged enough. • The battery pack is dead (page 121).	— → Fully charge the battery pack (page 13). → Replace the battery pack with a new one.
The ϟ/CHG lamp flashes when charging a battery pack.	• The battery pack has malfunctioned.	→ Contact your Sony dealer or local authorized Sony service facility.

Symptom	Cause	Solution
The ϟ/CHG lamp does not light up when charging a battery pack.	• The AC power adaptor is disconnected. • The battery pack is not installed correctly. • The battery pack is completely charged.	→ Firmly connect the power cord (mains lead) to a wall outlet (wall socket) (page 14). → Install the battery pack correctly (page 13). —
The camera turns on but no functions work.	—	→ Remove the battery pack, then install it again after about one minute and turn on the camera again. If the functions still do not work, press the RESET button located on the bottom of the camera using a sharp-pointed object. (If you press the RESET button, all settings including the date and time are cleared.)
You cannot turn on the camera.	• The battery pack is not installed correctly. • The AC power adaptor is disconnected.	→ Install the battery pack correctly (page 13). → Connect the AC power adaptor securely to your camera (page 16).
The power turns off suddenly.	• If you do not operate the camera for about three minutes when using a battery pack, the camera turns off automatically to prevent wearing down the battery (page 17). • The battery pack is discharged.	→ Turn on the camera again (page 17) or use the AC power adaptor (page 16). → Replace it with a charged battery pack (page 13).

Shooting still images/movies

Symptom	Cause	Solution
The LCD backlight does not light up when the power is turned on.	• The power was turned off with the LCD backlight set to OFF the last time the camera was used.	→ Turn the LCD backlight on (page 26).
The subject does not appear on the LCD screen.	• The mode dial is set to ▶ or SET UP.	→ Set the mode dial to 📷, S*, A*, M*, SCN, or 🎞 (pages 24 and 94). * MVC-CD400 only

Symptom	Cause	Solution
The image is out of focus.	• The subject is too close.	→ Record in the macro recording mode when you shoot a subject that is within 4 to 50 cm (1 5/8 to 19 3/4 inches) for MVC-CD400 or within 3 to 50 cm (1 3/16 to 19 3/4 inches) for MVC-CD250 from the lens. Make sure to position the lens farther away from the subject than the shortest shooting distance when shooting (page 28).
	• The Landscape mode or Portrait mode is selected for the Scene Selection function.	→ Cancel the setting (page 33).
	• The Focus preset function is selected.	→ Cancel the function (page 69).
	• [CONVERSION LENS] in the SET UP settings is set to [ON] (MVC-CD400 only).	→ Set it to [OFF] (pages 62 and 117).
Zoom does not work.	• [CONVERSION LENS] in the SET UP settings is set to [ON] (MVC-CD400 only).	→ Set it to [OFF] (pages 62 and 117).
	• Zoom cannot be used when shooting a movie (MPEG MOVIE) (MVC-CD400 only).	—
Digital zoom does not function.	• The digital zoom cannot be used when shooting a movie (MPEG MOVIE).	—
	• [DIGITAL ZOOM] in the SET UP settings is set to [OFF].	→ Set it to [ON] (pages 62 and 116).
The image is too dark.	• You are shooting a subject with a light source behind the subject.	→ Adjust the exposure (page 70).
	• The brightness of the LCD screen is too low.	→ Adjust the brightness of the LCD screen in the SET UP settings (pages 62 and 117).
	• The LCD backlight is set to off.	→ Turn the LCD backlight on.
The image is too bright.	• You are shooting a spotlighted subject in a dark location such as on a stage.	→ Adjust the exposure (page 70).
	• The LCD screen is too bright.	→ Adjust the brightness of the LCD screen in the SET UP settings (pages 62 and 117).
The image is monochrome (black and white).	• [P. EFFECT] is set to [B&W] mode.	→ Cancel [B&W] mode (page 83).
Vertical streaks appear when you are shooting a very bright subject.	• The smear phenomenon is occurring.	→ This is not a malfunction.

Symptom	Cause	Solution
Your camera cannot record images.	• No disc has been inserted. • The disc is full. • The disc has not been initialized. • You cannot record images while charging the flash. • The mode dial is not set to 📷, S*, A*, M* or SCN when shooting a still image. • The mode dial is not set to 🎞 when shooting a movie. * MVC-CD400 only	→ Insert a disc (page 20). → Replace it with a new one format the disc when using a CD-RW. → Initialize the disc (page 21). — → Set it to 📷, S*, A*, M*, or SCN (page 24). → Set it to 🎞 (page 94).
Recording takes a long time.	• NR slow shutter is activated.	—
The built-in flash or the optional external flash (HVL-F1000) does not work.	• The mode dial is set to ▶, SET UP, or 🎞 (MPEG MOVIE or MULTI BURST). • The flash is set to ⊘ (no flash). • The Twilight mode is selected for the Scene Selection function. • The Landscape mode is selected for the Scene Selection function. • [MODE] (REC MODE) in the menu settings is set to [BURST 3] or [EXP BRKTG] (MVC-CD400 only). • [HOT SHOE] in the SET UP settings is set to [ON] (MVC-CD400 only).	→ Set it to other modes. → Set the flash to auto (no indicator) or ϟ (forced flash) (page 29). → Cancel the setting (page 33). → Set the flash to ϟ (forced flash) (page 29). → Set it to other settings. → Set [HOT SHOE] to [OFF] (pages 62 and 117).
The macro function does not work.	• The Landscape mode is selected for the Scene Selection function. • [CONVERSION LENS] in the SET UP settings is set to [ON] (MVC-CD400 only).	→ Cancel the setting (page 33). → Set it to [OFF] (pages 62 and 117).
The eyes of the subject come out red.	—	→ Set [RED EYE REDUCTION] in the SET UP settings to [ON] (page 30).
The date and time are recorded incorrectly.	• The date and time are not set correctly.	→ Set the correct date and time (page 17).

Viewing images

Symptom	Cause	Solution
Your camera cannot play back images.	• The mode dial is not set to ▶. • Your camera cannot play back image files copied to the hard disk of your computer if the file name has been changed or the image has been modified.	→ Set it to ▶ (page 35). —
The image appears rough right after playback starts.	—	→ This is not a malfunction.
The image does not appear on the TV screen.	• The video output signal setting of your camera in the SET UP settings is incorrect. • The connection is not correct.	→ Change the setting (pages 62 and 117). → Check the connection (page 37).
The picture is noisy.	• Your camera is placed near a TV or other equipment with a strong magnetic field.	→ Move your camera away from the TV, etc.
The image cannot be played back on a computer.	—	→ See page 103.

Deleting/Editing Images

Symptom	Cause	Solution
Your camera cannot delete an image.	• The image is protected. • The disc is not initialized. • The disc remaining space is not sufficient.	→ Cancel the protection (page 89). → Initialize the disc (page 21). → This is not a malfunction.
You have deleted an image by mistake.	• Once you have deleted a file, you cannot restore it.	→ Protect images against accidental erasure (page 89).
The resizing function does not work.	• You cannot resize movies (MPEG MOVIE), Clip Motion, Multi Burst and uncompressed images. • The disc remaining space is not sufficient.	— → This is not a malfunction.
You cannot display a print mark.	• You cannot display print marks on moving images and Clip Motion images. • The disc remaining space is not sufficient.	— → This is not a malfunction.

Computers

Symptom	Cause	Solution
You do not know if the OS of your computer is compatible.	—	→ Check “Recommended computer environment” (page 51).
Your computer does not recognize your camera.	• The camera is turned off. • The battery level is low. • You are not using the supplied USB cable. • The USB cable is not connected firmly. • The USB connectors on your computer are connected to other equipment besides the keyboard, the mouse, and your camera. • PIXELA PTP Manager is not installed. • The camera was connected to a computer with the USB cable before installing PIXELA PTP Manager, so the device was not recognized by the computer.	→ Turn on the camera (page 17). → Use the AC power adaptor or a fully charged battery back. (page 16). → Use the supplied USB cable. → Disconnect the USB cable, and connect it again firmly. Make sure that “USB MODE” is displayed on the LCD screen (page 56). → Disconnect the USB cables except for the ones connected to the keyboard, the mouse, and your camera. → Install PIXELA PTP Manager (page 52). → Delete the device which is not recognized, then install PIXELA PTP Manager (pages 52 and 60).
You cannot copy images.	• The camera is not correctly connected to your computer. • You are not using the correct copy procedure for your OS. —	→ Connect the camera and your computer correctly using the USB cable (pages 52 and 56). → Follow the designated copy procedure for your OS (page 51). → If you are using the “PIXELA ImageMixer for Sony” application software, click on HELP.
The image cannot be played back on a computer.	— —	→ If you are using the “PIXELA ImageMixer for Sony” application software, click on HELP. → Consult the computer or software manufacturer.

Symptom	Cause	Solution
The image cannot be played back through the disc drive of your computer.	• The disc has not been finalized. • Vibration caused an error during recording. • The disc drive does not support the packet-write system or MultiRead. • The disc may be scratched or dirty. • Causes not described above have occurred.	→ Finalize the disc (page 44). → You may be able to view the image if you connect the camera to your computer with the USB cable. → Consult the computer or the disc drive manufacturer. → Clean the disc if the disc is dirty. When the disc is scratched replace the disc. → Consult the computer or software manufacturer.
The image and sound are interrupted by noise when you view a movie on a computer.	• You are playing back the file directly from the disc.	→ Copy the file to the hard disk of your computer and then play back the file from the hard disk (pages 57, 59 and 61).
You cannot print an image.	—	→ Check the printer settings. → Click on the HELP files for the “PIXELA ImageMixer for Sony” application software.

CD-ROM

Symptom	Cause	Solution
You cannot record on a disc.	• The disc is full. • The disc is not initialized. • The disc is not placed correctly.	→ Replace it with a new one. Format the disc when using a CD-RW. → Initialize the disc (page 21). → Place the disc correctly in the disc tray (page 20).

Other

Symptom	Cause	Solution
Your camera does not work.	• You are not using an "InfoLITHIUM" battery pack. • The battery level is low. (The ⌧ indicator appears.) • The AC power adaptor is not connected securely. • The built-in microcomputer is not working properly.	→ Use an "InfoLITHIUM" battery pack (page 13). → Charge the battery pack (page 13). → Connect it securely to the DC IN jack of your camera and to a wall outlet (wall socket) (page 16). → Turn the power off and then on after one minute, and check that the camera works properly.
The power is on, but the camera does not work.	• The built-in microcomputer is not working properly.	→ Remove the battery pack, then install it again after about one minute and turn on the camera. If the functions still do not work, press the RESET button located on the bottom of the camera with a fine-tipped object, then turn the power on again. (When you press the RESET button, all settings including the date and time are cleared.)
You cannot identify an indicator on the LCD screen.	—	→ Check the indicator (page 124).
The lens does not retract even when the power is turned off (MVC-CD400 only).	• The battery pack is discharged.	→ Replace it with a fully charged battery or use the AC power adaptor (pages 13, 16).
The lens gets fogged.	• Moisture condensation has occurred.	→ Turn off the camera and wait for about an hour at the room temperature for the moisture to evaporate before use (page 118).
The played back image is small.	• You are playing back a file with an image size larger than 2272×1704 (MVC-CD400) or 1600×1200 (MVC-CD250) that were recorded by another camera.	—
A file error occurs when you play back a file.	• The image file has an error. • The image was not recorded correctly. • The disc is dirty • The disc may be scratched.	— — → Clean the disc. → Replace the disc.

Warnings and messages

The following messages may appear on the LCD screen.

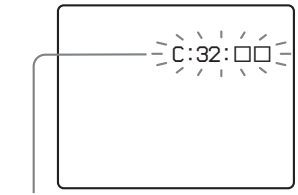
Message	Meaning/Corrective action
LENS CAP ATTACHED (MVC-CD400 only)	• The lens cap is attached.
COVER OPEN	• The disc cover is open.
NO DISC	• No disc is inserted. Insert a disc (page 20).
DRIVE ERROR	• Trouble has occurred with the disc drive.
SYSTEM ERROR	• Trouble has occurred with the disc drive or the camera.
DISC ERROR	• The inserted disc cannot be used with your camera, is damaged, is dirty, or cannot be read due to vibration.
DEW ERROR	• Moisture condensation has occurred inside the camera. Turn off the camera and wait for about an hour for the moisture to evaporate before use (page 118).
DISC PROTECT	• The disc was protected with a computer or the disc was automatically protected with a camera, and cannot be recorded.
FOLDER ERROR	• A folder with the same name already exists on the disc.
NOT ENOUGH DISC SPACE	• The remaining disc space is insufficient for any operation other than finalization.
NOT INITIALIZED	• The disc has not been initialized, so images cannot be recorded by the camera. Initialize the disc (page 21).
ALREADY INITIALIZED	• The disc has already been initialized, so initialization is not necessary.
ALREADY FINALIZED	• The disc has already been finalized, so finalization is not necessary.
NO FILE	• No image has been recorded on the disc.
FILE ERROR	• An error occurred while playing back the image.
IMAGE SIZE OVER	• You are playing back an image of a size larger than can be played back with your camera.
INVALID OPERATION	• You are playing back a file that was created on equipment other than your camera.
FILE PROTECT	• The image is protected against erasure.

Message	Meaning/Corrective action
For "InfoLITHIUM" BATTERY ONLY	• The battery is not the “InfoLITHIUM” type.
NOT ENOUGH BATTERY	• The battery level is too low to execute initialization or finalization.
	• The battery level is low. Charge the battery pack (page 13). Depending on the conditions of use, the indicator may flash even though there is still 5 to 10 minutes of remaining battery time left.
CAN NOT UNFINALIZE	• A CD-R or disc that has not been finalized is inserted.
CAN NOT FORMAT	• A CD-R is inserted.
FORMAT ERROR	• A disc formatted with equipment other than your camera is inserted.
TURN THE POWER OFF AND ON AGAIN	• A malfunction has occurred in the lens (MVC-CD400 only).
	• The amount of light is not sufficient or the shutter speed is too slow. • You are not holding the camera steady enough. Use the flash, or mount the camera on a tripod or otherwise secure the camera in place.

Self-diagnostics display

– If a code starting with an alphabet letter appears

Your camera has a self-diagnosis display. This function displays the camera condition on the LCD screen with a combination of a letter and four numerical digits. If this occurs, check the following code chart and attempt the corresponding corrective actions. The last two digits (indicated by ☐☐) will differ depending on the state of the camera.



Self-diagnostics display

Code	Cause	Corrective action
C:32: ☐☐	There is trouble with your camera's hardware or zoom function.	• Turn the power off and on again (page 17).
C:13: ☐☐	The camera cannot read or write data on the disc.	• Clean the disc.
	The inserted disc cannot be used with your camera, or the data is damaged.	• Insert a new disc (page 20).
E:61: ☐☐ **E:91:** ☐☐	A camera malfunction that you cannot reverse has occurred.	• Press the RESET button (page 98) located on the bottom of the camera, then turn on the power again.

If you are unable to solve the problem even after trying the corrective actions a few times, contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code.
Example: E:61:10

Recording modes

In addition to setting the image size and image quality (page 22), you can also select various recording modes according to the purpose of shooting.

Still image

Recording mode	Description
NORMAL	Records a normal still image (page 24).
E-MAIL	Records a small-size image suitable for e-mail transmission (page 81).
TIFF	Records an image for printing with a high-quality image (page 81).
VOICE	Records an audio file in addition to a still image (page 82).
EXP BRKTG (MVC-CD400 only)	Records three images with the exposure value of each image slightly shifted (page 75).
BURST 3	Records three images continuously (page 80).

Moving image

Recording mode	Description
MPEG MOVIE	Records moving images (page 94).
CLIP MOTION	Records continuous still images for display on home pages or e-mail transmission (page 77).
MULTI BURST	Records 16 frames with one shot (page 79).

Number of still images that can be saved

(Units: images)

Recording mode		Image size					
		2272×1704 (MVC-CD400)	2272 (3:2) (MVC-CD400)	1600×1200	1600 (3:2) (MVC-CD250)	1280×960	640×480
NORMAL	Standard	Approx. 119	Approx. 119	Approx. 235	Approx. 235	Approx. 347	Approx. 1291
	Fine	Approx. 66	Approx. 66	Approx. 131	Approx. 131	Approx. 195	Approx. 658
E-MAIL	Standard	Approx. 114	Approx. 114	Approx. 215	Approx. 215	Approx. 304	Approx. 849
	Fine	Approx. 64	Approx. 64	Approx. 125	Approx. 125	Approx. 181	Approx. 520
TIFF (MVC-CD400)	Standard	Approx. 10	Approx. 11	Approx. 10	–	Approx. 10	Approx. 11
	Fine	Approx. 9	Approx. 10	Approx. 10	–	Approx. 10	Approx. 11
TIFF (MVC-CD250)	Standard	–	–	Approx. 20	Approx. 22	Approx. 21	Approx. 22
	Fine	–	–	Approx. 19	Approx. 21	Approx. 20	Approx. 21
VOICE*	Standard	Approx. 110	Approx. 110	Approx. 201	Approx. 201	Approx. 278	Approx. 672
	Fine	Approx. 63	Approx. 63	Approx. 120	Approx. 120	Approx. 171	Approx. 448

* When recording sound for 5-second

Shooting time

(Units: images)

Recording mode	Image size					Image quality	
	320 (HQ)	320×240	160×112	MOBILE	NORMAL	STD	FINE
MPEG MOVIE	Approx. 5 min. 53 sec.	Approx. 23 min. 38 sec.	Approx. 89 min. 36 sec.	–	–	–	–
CLIP MOTION*	–	–	–	Approx. 949	Approx. 478*	–	–
MULTI BURST	–	–	–	–	–	Approx. 347	Approx. 195

* When recording 10 frames per Clip Motion file

• The actual number of images or shooting time may differ depending on the shooting conditions.

Menu items

Menu items that can be modified differ depending on the position of the mode dial. The LCD screen shows only the items you can operate at the moment. Factory settings are indicated with ■.

When the mode dial is set to 📷, S*, A*, M*, or SCN

Item	Setting	Description
SCN	■ / / / / *	Sets the scene selection mode (page 33). (This setting can be made only in SCN mode.)
(EV) (MVC-CD250 only)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■0EV / –0.3EV / –0.7EV / –1.0EV / –1.3EV / –1.7EV / –2.0EV	Adjusts the exposure value (page 70).
(FOCUS) (MVC-CD250 only)	∞/ 7.0 m / 3.0 m / 1.0 m / 0.5 m / CENTER AF / ■MULTI AF	Selects the auto focus method or sets the focus preset.
WB (WHITE BAL)	* / / / / / ■AUTO	Sets the white balance (page 76).
(SPOT METER) (MVC-CD250 only)	ON / ■OFF	Adjusts the exposure to the subject you are shooting (page 72).
ISO	400 / 200 / 100 / ■AUTO	Selects the ISO film speed. When shooting under dark conditions or shooting a fast-moving subject, use a high-number setting. To record high-quality images, use a low-number setting (except when the mode dial is set to SCN).
(IMAGE SIZE)	MVC-CD400 ■2272×1704 / 2272 (3:2) / 1600×1200 / 1280×960 / 640×480	Selects the image size when shooting still images (page 22).
	MVC-CD250 ■1600×1200 / 1600 (3:2) / 1280×960 / 640×480	Selects the image size when shooting still images (page 22).
(P.QUALITY)	■FINE STANDARD	– Records images with fine/high image quality. – Records images with standard images quality (page 22).

Item	Setting	Description
MODE (REC MODE)	TIFF VOICE E-MAIL EXP BRKTG* BURST 3 ■NORMAL	– Records a TIFF (uncompressed) file in addition to the JPEG file (page 81). – Records an audio file (with a still image) in addition to the JPEG file (page 82). – Records a small-size (320×240) JPEG file in addition to the selected image size (page 81). – Records three images with the exposure value of each image slightly shifted (page 75). – Records three images in succession (page 80). – Records an image using the normal recording mode.
⚡± (FLASH LEVEL)	HIGH ■NORMAL LOW	– Makes the flash level higher than normal. – Normal setting. – Makes the flash level lower than normal.
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA /NEG.ART / ■OFF	Sets the image special effects (page 83).
(SHARPNESS)	+2 / +1 / ■0 / –1 / –2	Adjusts the sharpness of the image. The indicator appears (except when the setting is 0).

* MVC-CD400 only

When the mode dial is set to 🎞 (when [MOVING IMAGE] is set to [MPEG MOVIE] in the SET UP settings)

Item	Setting	Description
(EV) (MVC-CD250 only)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■0EV / –0.3EV / –0.7EV / –1.0EV / –1.3EV / –1.7EV / –2.0EV	Adjusts the exposure value (page 70).
(FOCUS) (MVC-CD250 only)	∞/ 7.0 m / 3.0 m / 1.0 m / 0.5 m / CENTER AF / ■MULTI AF	Selects the auto focus method or sets the focus preset.
WB (WHITE BAL)	* / / / / / ■AUTO	Sets the white balance (page 76).
(SPOT METER) (MVC-CD250 only)	ON / ■OFF	Adjusts the exposure to the subject you are shooting (page 72).
(IMAGE SIZE)	320(HQX) / 320×240 / ■160×112	Selects the MPEG image size when shooting movies (page 94).
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART / ■OFF	Sets the image special effects (page 83).

* MVC-CD400 only

When the mode dial is set to 🎞 (when [MOVING IMAGE] is set to [CLIP MOTION] in the SET UP settings)

Item	Setting	Description
(EV) (MVC-CD250 only)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■0EV / –0.3EV / –0.7EV / –1.0EV / –1.3EV / –1.7EV / –2.0EV	Adjusts the exposure value (page 70).
(FOCUS) (MVC-CD250 only)	∞/ 7.0 m / 3.0 m / 1.0 m / 0.5 m / CENTER AF / ■MULTI AF	Selects the auto focus method or sets the focus preset.
WB (WHITE BAL)	* / / / / / ■AUTO	Sets the white balance (page 76).
(SPOT METER) (MVC-CD250 only)	ON / ■OFF	Adjusts the exposure to the subject you are shooting (page 72).
(IMAGE SIZE)	■NORMAL / MOBILE	Selects the Clip Motion image size (page 77).
± (FLASH LEVEL)	HIGH ■NORMAL LOW	– Makes the flash level higher than normal. – Normal setting. – Makes the flash level lower than normal.
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART / ■OFF	Sets the image special effects (page 83).
(SHARPNESS)	+2 / +1 / ■0 / –1 / –2	Adjusts the sharpness of the image. The indicator appears (except when the setting is 0).

* MVC-CD400 only

When the mode dial is set to 🎞 (when [MOVING IMAGE] is set to [MULTI BURST] in the SET UP settings)

Item	Setting	Description
(EV) (MVC-CD250 only)	+2.0EV / +1.7EV / +1.3EV / +1.0EV / +0.7EV / +0.3EV / ■0EV / –0.3EV / –0.7EV / –1.0EV / –1.3EV / –1.7EV / –2.0EV	Adjusts the exposure value (page 70).
(FOCUS) (MVC-CD250 only)	∞/ 7.0 m / 3.0 m / 1.0 m / 0.5 m / CENTER AF / ■MULTI AF	Selects the auto focus method or sets the focus preset.
WB (WHITE BAL)	*1 / / / / / ■AUTO	Sets the white balance (page 76).
(SPOT METER) (MVC-CD250 only)	ON / ■OFF	Adjusts the exposure to the subject you are shooting (page 72).
(INTERVAL)	1/7.5 / 1/15 / ■1/30 (NTSC) 1/6.3 / 1/12.5 / ■1/25 (PAL)	– Selects the Multi Burst shutter interval in NTSC mode. – Selects the Multi Burst shutter interval in PAL mode. * The shutter interval settings differ depending on the setting of the [VIDEO OUT] item in the SET UP settings (page 117).
(P.QUALITY)	■FINE STANDARD	– Records images with fine/high image quality. – Records images with standard image quality.
PFX (P.EFFECT)	SOLARIZE / B&W / SEPIA / NEG.ART / ■OFF	Sets the image special effects (page 83).
(SHARPNESS)	+2 / +1 / ■0 / –1 / –2	Adjusts the sharpness of the image. The indicator appears (except when the setting is 0).

* MVC-CD400 only

When the mode dial is set to ▶

Item	Setting	Description
DELETE	OK CANCEL	– Deletes the displayed image (page 39). – Cancels deleting of the image.
PROTECT	—	Protects images against accidental erasure (page 89).
PRINT	—	Marks the print mark on still images you want to print (page 91).
SLIDE	INTERVAL REPEAT START CANCEL	– Sets the slide show interval. (Only in single-image mode.) ■5 sec/ 10 sec/ 30 sec/ 1 min – ■ON/OFF – Starts the slide show. – Cancels the slide show.
RESIZE	2272×1704 (MVC-CD400 only) / 1600×1200 / 1280×960 / 640×480 / CANCEL	Changes the recorded still image size (page 91). (Only in single-image mode.)
ROTATE	↶ (counter clockwise) / ↷ (clockwise) / OK / CANCEL	Rotates the still image 90° (page 88). (Only in single-image mode.)

SET UP items

Set the mode dial to SET UP. The SET UP screen appears.
Factory settings are indicated with ■.

- The date and time are not superimposed onto moving images and Clip Motion images. The date and time do not appear on the LCD screen during shooting. These appear only during playback.
- The hologram AF[1] or AF illuminator[2] does not emit light in the following conditions:
  – Twilight mode
  – Landscape mode

[DISC TOOL]

Item	Setting	Description
FINALIZE	OK / CANCEL	Finalizes a disc to allow viewing through a disc drive (page 44).
FORMAT	OK / CANCEL	Formats a CD-RW (page 42).
INITIALIZE	OK / CANCEL	Initializes a disc (page 21).
UNFINALIZE	OK / CANCEL	Cancels the last executed finalization (page 46) (CD-RW only).

[CAMERA]

Item	Setting	Description
MOVING IMAGE	■MPEG MOVIE / CLIP MOTION / MULTI BURST	Selects the shooting mode for a movie (pages 109, 77, 79 and 94).
DATE/TIME	DAY & TIME / DATE / ■OFF	Selects whether to superimpose the date or time onto the image (page 32).
DIGITAL ZOOM	■ON / OFF	Selects whether to use the digital zoom (page 27).
BRACKET STEP (MVC-CD400 only)	±1.0EV / ■±0.7EV / ±0.3EV	Sets the exposure compensation value when recording three images with each exposure value shifted (page 75).
RED EYE REDUCTION	ON / ■OFF	Reduces the red-eye phenomenon when using a flash (page 30).
HOLOGRAM AF[1]/ AF ILLUMINATOR[2]	■AUTO / OFF	Selects whether to emit AF illuminator light. Used when it is difficult to focus on the subject under dark conditions (page 31).

[1] MVC-CD400
[2] MVC-CD250

[SETUP 1]

Item	Setting	Description
FILE NUMBER	■SERIES RESET	– Assigns numbers to files in sequence even if the disc is changed. – Resets the file numbering each time the disc is changed.
CONVERSION LENS (MVC-CD400 only)	ON / ■OFF	Sets to [ON] when using the VCL-MHG07 conversion lens (not supplied). At this time, the zoom or the focus preset function does not work. Also, note that the VAD-S70 adaptor ring needed to mount the conversion lens to your camera is not sold in some countries and regions.
HOT SHOE (MVC-CD400 only)	ON / ■OFF	Set when using a commercially available external flash.
言語 / LANGUAGE	■ENGLISH 日本語 / JPN	– Displays the menu items, warnings and messages in English. – Displays the menu items, warnings and messages in Japanese.
CONFIRM B. WRITE	ON / ■OFF	Selects whether to confirm recording or deletion of the image before writing to the disk.
CLOCK SET	OK / CANCEL	Sets the date and time (page 17).

When [CONVERSION LENS] is set to [ON] (MVC-CD400 only):

- The Scene Selection and Zoom functions are not available.
- When the mode dial is set to A or M, you can only select aperture values of F4 or higher.
- The focus preset is not available.
- Macro shooting is not available.

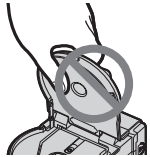
[SETUP 2]

Item	Setting	Description
LCD BRIGHTNESS	BRIGHT / ■NORMAL / DARK	Selects the LCD brightness. This has no effect on the recorded images.
LCD BACKLIGHT	BRIGHT / ■NORMAL	Selects the brightness of the LCD backlight. Selecting [BRIGHT] makes the screen bright and easy to see when using the camera outdoors or in other bright locations, but also uses up the battery charge faster. Displayed only when using your camera with the battery pack.
BEEP	SHUTTER ■ON OFF	– Turns on the shutter sound. (The shutter sound is heard when you press the shutter button.) – Turns on the beep/shutter sound when you press the control button/shutter button. – Turns off the beep/shutter sound.
VIDEO OUT	■NTSC PAL	– Sets the video output signal to NTSC mode (e.g., Japan, USA). – Sets the video output signal to PAL mode (e.g., Europe).

Precautions

On handling the camera

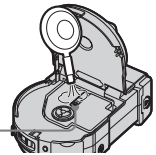
Do not carry the camera by the disc cover



Do not touch the rotating disc
This may cause injury.

On cleaning the pickup lens

When the pickup lens becomes dirty and the camera cannot operate properly, clean the pickup lens using a commercially available blower.



On pickup lens

Do not touch the pickup lens inside the disc cover. Also, do not open the disc cover except when inserting or removing a disc in order to keep dust out.

On cleaning

Cleaning the LCD screen
Wipe the screen surface with an LCD cleaning kit (not supplied) to remove fingerprints, dust, etc.

Cleaning the lens
Wipe the lens with a soft cloth to remove fingerprints, dust, etc.

Cleaning the DC plug
Do not use the AC power adapter while the DC plug is dirty. Wipe any dirt off of the plug with a cotton swab. A dirty DC plug can prevent the unit from charging properly.

Cleaning the camera surface
Clean the camera surface with a soft cloth slightly moistened with water, then wipe the surface dry. Do not use any type of solvent such as thinner, alcohol or benzine as this may damage the finish or the casing.

After using your camera at the seashore or other dusty locations
Clean your camera carefully. Otherwise, the salty air may corrode the metal fittings or dust may enter the inside of your camera, causing a malfunction.

Note on operating temperature

Your camera is designed for use between the temperatures of 0° and 40° (32° F and 104° F). Shooting in extremely cold or hot places that exceed this range is not recommended.

On moisture condensation

If the camera is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense inside or outside the camera. Should this occur, the camera will not operate properly.

Moisture condensation occurs easily when:

- The camera is brought from a cold location such as a ski slope into a warmly heated room.
- The camera is taken from an air-conditioned room or car interior to the hot outdoors, etc.

How to prevent moisture condensation

When bringing the camera from a cold place to a warm place, seal the camera in a plastic bag and allow it to adapt to conditions at the new location over a period of time (about an hour).

If moisture condensation occurs

Turn off the camera and wait about an hour for the moisture to evaporate. Note that if you attempt to shoot with moisture remaining inside the lens, you will be unable to record clear images.

On internal rechargeable button battery

This camera has an internal rechargeable button battery for maintaining the date and time and other settings regardless of whether the power is on or off.

This rechargeable button battery is continually charged as long as you are using the camera. However, if you use the camera for only short periods it discharges gradually, and if you do not use the camera at all for about one month it becomes completely discharged. In this case, be sure to charge this rechargeable button battery before using the camera.

However, even if this rechargeable button battery is not charged, you can still use the camera as long as you do not record the date and time.

Charging method

Connect the camera to a wall outlet (mains) using the AC power adaptor, or install a charged battery pack, and leave the camera for 24 hours or more with the power off.

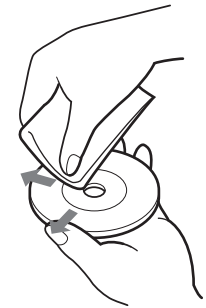
On AC power adaptor

The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet (wall socket), even if the unit itself has been turned off.

On discs

On cleaning

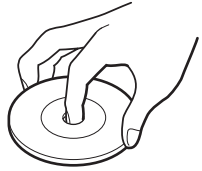
- Do not clean a disc using a cleaner before shooting. Use a commercially available blower to remove dust.
- If fingerprints, dust, droplets of water, or oil make the recordable side (the reverse of the printed side) of a disc dirty, the camera may not properly record images on the disc. Be sure to handle discs with care.
- Do not scratch both sides of a disc.
- If a disc does become dirty, wipe it in a straight line from center to edge with a soft dry cloth or a soft cloth lightly moistened with ethyl alcohol or other mild detergent. You can also use a commercially available CD cleaner.



- Do not use any solvent (benzine, thinner, static protection product, record cleaner, etc.) to clean a disc.

Notes

- Do not remove the disc while reading or writing data.
- Data may be damaged if:
  - You remove the disc or shake the camera while reading or writing data.
  - You turn off your camera while reading or writing data.
  - You use the camera in a location subject to the effects of static electricity or noise.
- Do not attach any material on the surface of a disc. This causes a nonuniform rotating speed, which may cause the camera to malfunction.
- You can write only on the label surface of a disc. Write using only an oil-based felt-tip marker and do not touch the ink until dry. Do not heat the disc or use a sharp-pointed tool, such as a ballpoint pen.
- Hold the disc at the edges while supporting the center hole lightly. Do not touch the recordable side (the reverse of the printed side) of a disc.



- When you carry or store a disc, put it in its case.
- Do not strike, bend, drop or rub the edge of a disc.
- Do not store a disc in the following locations:
  - In dusty or dirty places
  - Exposed to direct sunlight
  - Near heaters
  - In damp places
- If you attempt to play back a disc on which no images have been recorded using a disc drive, the disc drive may malfunction or the disc may be scratched.

On "InfoLITHIUM" battery pack

What is the "InfoLITHIUM" battery pack?

The "InfoLITHIUM" battery pack is a lithium-ion battery pack that has functions for communicating information related to operating conditions between your camera and the AC power adaptor.
The "InfoLITHIUM" battery pack calculates the power consumption according to the operating conditions of your camera, and displays the remaining battery time in minutes.

Charging the battery pack

- We recommend charging the battery pack in an ambient temperature of between 10°C to 30°C (50° F to 86° F). You may not be able to efficiently charge the battery pack outside of this temperature range.
- We recommend fully charging the battery pack (page 13).

Effective use of the battery pack

- Battery performance decreases in low-temperature surroundings. So, the time that the battery pack can be used is shorter in cold places. We recommend the following to ensure longer battery pack use:
  – Put the battery pack in a pocket close to your body to warm it up, and insert it in your camera immediately before you start shooting.
- Frequently operating the zoom or flash wears out the battery charge faster.
- We recommend having spare battery packs handy for two or three times the expected shooting time, and making trial shots before taking the actual shots.
- Do not expose the battery pack to water. The battery pack is not water-resistant.

Remaining battery time indicator

- The power may go off although the battery remaining indicator shows there is enough power to operate. Charge the battery pack fully again so that the indication on the battery remaining indicator is correct. Note, however, that the correct battery indication sometimes will not be restored if the camera is used in high temperatures for a long time or left in a fully charged state, or the battery pack is frequently used.

How to store the battery pack

- Even if the battery pack will not be used for a long time, fully charge it and use it up once per year. Remove the battery pack from your camera, then store it in a dry, cool place. This is to maintain the battery pack's functions.

Battery life

- The battery life is limited. Battery capacity decreases little by little as you use it more and more, and as time passes. When the battery operating time is shortened considerably, a probable cause is that the battery pack has reached the end of its life.
- The battery life varies according to how it is stored and the operating conditions and environment for each battery pack.

Specifications

System

Image device
MVC-CD400
8.98 mm (1/1.8 type) color CCD
Primary color filter
MVC-CD250
6.64 mm (1/2.7 type) color CCD
Primary color filter

Total pixels number of camera
MVC-CD400
Approx. 4 130 000 pixels
MVC-CD250
Approx. 2 110 000 pixels

Lens MVC-CD400
3× zoom lens
f = 7.0 – 21.0 mm (9/32 – 27/32 inches) (34 – 102 mm (1 3/8 – 4 1/8 inches) when converted to a 35 mm still camera)
F2.0 – 2.5
MVC-CD250
3× zoom lens
f = 6.4 – 19.2 mm (9/32 – 25/32 inches) (41 – 123 mm (1 5/8 – 4 7/8 inches) when converted to a 35 mm still camera)
F3.8 – 3.9

Camera

Effective pixels number of camera
MVC-CD400
Approx. 3 950 000 pixels
MVC-CD250
Approx. 1 980 000 pixels

Exposure control
MVC-CD400
Automatic exposure, Shutter speed priority, Aperture priority, Manual exposure, Scene selection (4 modes)
MVC-CD250
Automatic exposure, Scene selection (3 modes)

White balance
Automatic, Daylight, Cloudy, Fluorescent, Incandescent, One-push*

* MVC-CD400 only

Data formats
Moving images: MPEG1
Still images: JPEG, GIF (for Clip Motion), TIFF
Audio with still image: MPEG1 (Monaural)

Recording media
8 cm CD-R/CD-RW

Flash MVC-CD400
Recommended distance (ISO set to Auto): 0.5 m to 5.0 m (19 3/4 inches to 196 7/8 inches)
MVC-CD250
Recommended distance (ISO set to Auto): 0.8 m to 3.5 m (31 1/2 inches to 137 7/8 inches)

Drive

Readout Non-contact optical readout (using semiconductor laser)

Laser Wavelength: 779 to 789 nm
Maximum output: 23 mW

Input and Output connectors

A/V OUT (MONO) (Monaural)
Minijack
Video: 1 Vp-p, 75 Ω unbalanced, sync negative
Audio: 327 mV (at a 47 kΩ load)
Output impedance 2.2 kΩ

ACC jack Mini-minijack (ø 2.5 mm)

USB jack mini-B

LCD screen

Used LCD panel
6.2 cm (2.5 type) TFT drive

Total number of dots
123 200 (560×220) dots

General

Used battery pack
NP-FM50 (supplied)

Power requirements
7.2 V

Power consumption (during shooting with LCD backlight on)
MVC-CD400
3.0 W
MVC-CD250
2.5 W

Operating temperature
0°C to +40°C (32°F to +104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions
MVC-CD400
Approx. 138×95×103 mm
(5 1/2×3 3/4×4 1/8 inches)
(W/H/D, excluding maximum protrusions)
MVC-CD250
Approx. 138×95×101 mm
(5 1/2×3 3/4×4 inches)
(W/H/D, excluding maximum protrusions)

Mass MVC-CD400
Approx. 638 g (1 lb 7 oz) (including battery pack NP-FM50, disc, and lens cap)
MVC-CD250
Approx. 608 g (1 lb 6 oz) (including battery pack NP-FM50, disc, and lens cap)

AC-L10A/L10B AC power adaptor

Power requirements
100 to 240 V AC, 50/60 Hz

Rated output voltage
DC 8.4 V, 1.5 A in operating mode

Operating temperature
0°C to +40°C (32°F to +104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions
125×39×62 mm
(5×1 9/16×2 1/2 inches) (w/h/d, excluding maximum protrusions)

Mass Approx. 280 g (10 oz)

NP-FM50 battery pack

Used battery
Lithium-ion battery

Maximum voltage
DC 8.4 V

Nominal voltage
DC 7.2 V

Capacity 8.5 Wh (1 180 mAh)

Operating temperature
0°C to +40°C (32°F to +104°F)

Dimensions
38.2×20.5×55.6 mm
(1 9/16×13/16×2 1/4 inches) (w/h/d)

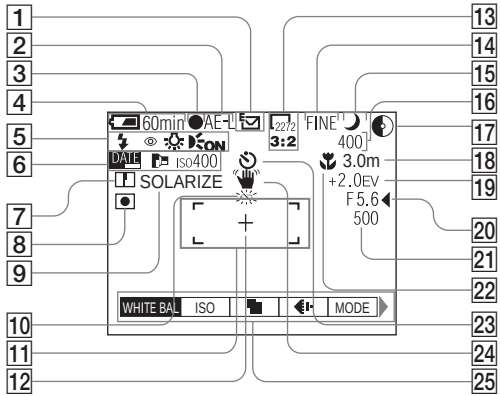
Mass Approx. 76 g (3 oz)

Accessories

- AC-L10A/L10B AC power adaptor (1)
- Power cord (mains lead) (1)
- USB cable (1)
- NP-FM50 battery pack (1)
- A/V connecting cable (1)
- 8 cm CD adaptor (1)
- Mavica disc (7) (CD-R (6), CD-RW (1))
- Shoulder strap (1)
- Lens cap (1)
- Lens cap strap (1)
- CD-ROM (SPVD-009) (1)
- Operating instructions (1)

Design and specifications are subject to change without notice.

When shooting still images



1. Recording mode indicator (109)
2. AE LOCK indicator (74) (MVC-CD400 only)
3. AE/AF indicator (25)
4. Battery remaining indicator (14)
5. Flash mode indicator (29)
   Red-eye reduction indicator (30)/ Hot shoe indicator (84) (MVC-CD400 only)
   White balance indicator (76)
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   1) MVC-CD400
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   Conversion lens indicator (117) (MVC-CD400 only)
   ISO number indicator (111)
7. Sharpness indicator (112, 113, 114)
8. Metering modes indicator (72) (MVC-CD400 only)
9. Picture effect indicator (83)
10. Low battery warning indicator (14)
11. AF range finder (68)
12. Spot metering cross hair (72)
13. Image size indicator (22)
14. Image quality indicator (23)
15. Mode dial indicator
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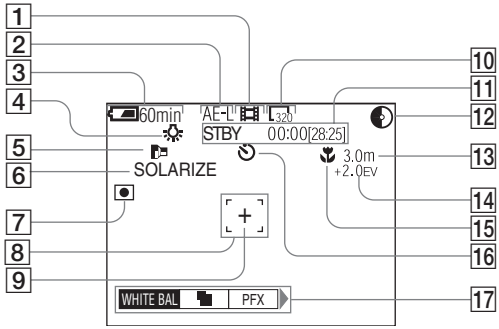
    Self-diagnosis function indicator (108)
17. Remaining disc space indicator
18. Focus range [ ] indicator (66)
    Focus preset value (69)
19. EV level indicator (70)
20. Aperture value indicator (64)
21. Shutter speed indicator (64)
22. Macro indicator (28)
23. Self-timer indicator (29)
24. Light amount warning indicator
25. Menu/Guide menu (62)

- Pressing MENU switches the menu on/off.
- (EV), (FOCUS) and (SPOT METER) appear on the MVC-CD250 menu.

Page numbers in parentheses indicate the location of additional important information.

When shooting movies

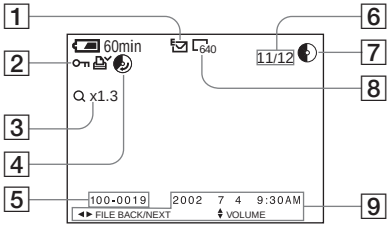


1 **Recording mode indicator (109)**
2 **AE LOCK indicator (74) (MVC-CD400 only)**
3 **Battery remaining indicator (14)**
4 **White balance indicator (76)**
5 **Conversion lens indicator (117) (MVC-CD400 only)**
6 **Picture effect indicator (83)**
7 **Metering modes indicator (72) (MVC-CD400 only)**
8 **AF range finder (94)**
9 **Spot metering cross hair (72)**
10 **Image size indicator (94)**
11 **Recording time [maximum recordable time] indicator/Self-diagnostics function indicator (108)**
12 **Remaining disc space indicator**
13 **Focus mode (FOCUS) indicator (69)/ Focus preset value (69)**
14 **EV level indicator (70)**
15 **Macro indicator (28)**
16 **Self-timer indicator (29)**
17 **Menu/Guide menu (62)**

- Pressing MENU switches the menu on/off.
- (EV), (FOCUS) and (SPOT METER) appear on the MVC-CD250 menu.

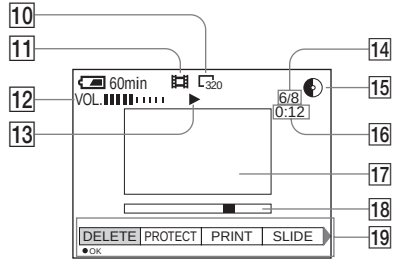
Page numbers in parentheses indicate the location of additional important information.

When playing back still images



1 **Recording mode indicator (109)**
2 **Protect indicator (89)/ Print mark indicator (91)**
3 **Zoom scaling indicator (86)**
4 **Recoverable disc space indicator (39)**
5 **File name (49)**
6 **Image number/Number of images recorded on disc**
7 **Remaining disc space indicator**
8 **Image size indicator (23)**
9 **Recording date of the playback image (32)/Menu/Guide menu (62)**

When playing back moving images



10 **Image size indicator (95)**
11 **Recording mode indicator (109)**
12 **Volume indicator (95)**
13 **Playback indicator (95)**
14 **Image number/Number of images recorded on disc**
15 **Remaining disc space indicator**
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17 **Playback image (95)**
18 **Playback bar (95)**
19 **Menu/Guide menu (62)**

Page numbers in parentheses indicate the location of additional important information.

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